THE CULTIVATOR.

"TO IMPROVE THE SOIL AND THE MIND."

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Improvement of the Soil.

Management of Sandy Lands.

SOME soils are too light, and others too heavy for profitable cultivation; and it was long ago held to be one of the cardinal principles in farming, to "make light land heavier and heavy land lighter."

The difficulties attending the successful cultivation of a sandy soil, arise chiefly from the want of coherence in its particles at the surface. From this cause it parts too easily with moisture, and with the gaseous portion of manures. Seeds placed in such soils may fail to germinate, or may be blown from their beds by winds, and the young plants are liable to be destroyed from the same cause. It is true, that when plants are once fairly started in sandy soil, they will often sustain themselves during drouth, better than in a soil of compact texture; because the mechanical relations of the soil in the former case, favor the ascent of moisture from below, and also allow the ready extension of roots to a great depth. Hence, as before indicated, the principal defect to be corrected in a sandy soil, is the looseness of its surface. To insure the germination of seeds, and to secure the young plants in their places, the soil must be made firm enough to resist the action of winds.

One of the best substances to apply to a sandy soil, is clay. Common clay, although composed chiefly of sand or silex, owes its adhesiveness to another substance it contains, called alumina; and hence, by the application of clay, we increase the adhesive principle. It is fortunate that most sandy tracts are underlaid with clay, at a greater or less depth, and in many instances it may be obtained and applied at a cost which would render it a profitable means of improvement. A coating of stiff clay, two or three inches thick, will convert almost any sandy soil into a good loam.

Prof. NORTON, in his address at Northampton, (1849,) observes:—"The want of alumina is not easily supplied, except in situations where clay can be procured. When it can be had, a load of it is frequently of more value than a load of manure, because it has not only an immediate effect, but also permanently improves the land. I know of one farmer near Hartford, who has carted clay by his return teams from that city, a distance of nearly nine miles. He assured me that it paid him well, and that a full load of stiff clay was worth, on his soil, two loads of manure. * * * This addition of clay is not alone useful as bringing new and valuable ingredients to the soil; perhaps its principal value consists in the power it gives the soil to retain moisture, and the manures which are applied to it. Thus it is the means of lasting improvement."

W. C. GOLDTHWAIT, Esq., in an address delivered at Springfield, Mass., last fall, observed:—"If land is too porous for want of clay, then supply what is wanting. Nature has fortunately so disposed the different kinds of earth, that no part of our territory is very remote from a deposite of the best clay. This costs nothing but the labor of removal, and though in most cases it will not act as a manure, yet it will render the effect of all manure more lasting, and render the soil more moist and more fit for future cultivation. * * * * I have tried some experiments of this kind, putting on about eighty cords to the acre, or say three inches in depth. * * * * Some may prefer a lighter dressing, but in farming as well as elsewhere, 'work once well done is twice done.' The effects of this course of treatment are exceedingly durable. Fields within my knowledge that were so treated a long time ago, have exhibited the beneficial effects after a lapse of twenty-five years. It should be remarked that much care is necessary to see that the clay is thoroughly mixed with the soil, or much of it will prove little better than blocks of stone. Exposure to the frost before plowing in, is one of the most efficient means of accomplishing this. Water expands in freezing; hence moist earth expands under the influence of frost, and becomes disintegrated. The use of the harrow, after the clay has frozen and dried, will be exceedingly efficient."

It is, no doubt, true that the beneficial action of clay on sandy soils, consists chiefly in its rendering them more tenacious; but some clays abound in the elements which produce fertility and supply the food of plants. They become, under the effects of drainage, and proper exposure to air and frost, very productive, especially in grass. This is strikingly the case with clays in the Connecticut Valley; and the stiff blue clay of Albany, when its tenacity is sufficiently overcome, forms a rich soil. Prof. EMMONS analysed this clay, and gives the following as its composition:

Water of absorption,	4.25
Organic matter,	1.17
Sulphate of lime,	1.00
Silicates,	69.02
Peroxide of iron and alumina,	17.24
Potash,	0.14
Carbonate of lime,	4.00
Magnesia,	3.00
	98.82

Prof. E. remarks—"It appears from numerous examinations which we have made, that clays contain more or less vegetable matter; they all blacken previous to ignition, and give off the odor of burning vegetables." The above analysis shows a fair proportion of lime in the states of carbonate and sulphate—as well as potash and magnesia. It shows in fact, a richer soil, except in vegetable matter, than most of those ordinarily called good. So that we not only increase the tenacity of sandy soil by adding such clay to it, but we, at the same time

furnish elements which are directly useful in the growth and perfection of plants.

Wood-ashes are also an excellent manure for sandy soils. The potash dissolves a portion of the silex or flint, and the soil becomes more close in its texture. It is probable that all alkalies have a similar tendency. Hence urine and guano, which contain much ammonia, are particularly valuable for sands —they furnish the nitrogen of plants, and improve the physical character of the soil by making it more compact. Unfermented animal manures, mixed with straw or other vegetable matter, are not proper for sandy soils. They increase the defect which it is wished to remedy; that is, render the soil more open, which, according to the weather, causes the manure either to dry up and its strength to evaporate, or to be leached into the earth by rains. It is found best in all cases, so far as we have been acquainted with the improvement of this kind of soil, to apply animal manure in the form of well rotted compost. The objection which has been made, that this mode of managing manure causes a waste of its valuable properties, is not well founded. The absorbent substances, peat or litter, which should be mixed with the manure, will prevent the escape of the saline and gaseous portions—the ammonia will combine with the carbon, and remain sufficiently fixed till the manure is applied to crops. Manure in this state does not make the soil more dry, but rather attracts moisture to it, and consolidates its particles.

Several kinds of plants have a beneficial effect in binding sandy soil. On very light sands, some kinds of reeds, which will grow in such situations, are planted. Prof. NORTON states that the *Arundo arenaria* is planted in the blowing sands of some parts of Holland and Belgium, which were formerly not only of no value, but were often driven by winds over cultivated fields, burying the crops and the fertile soil. He states that the roots of the plant run forty to fifty feet, sending up a shoot at every joint, and that he has walked over immense sand heaps, the surface of which, even to the bleak and exposed tops, was bound together by this plant.

Another plant which is much prized in Europe, in the improvement of sandy soils, is spurry. We do not know that this plant has been cultivated in America. Prof. JOHNSTON, in his late lectures in this city, observes—"Of all food for cattle, spurry grows best on light, sandy soil. In Europe it is considered an exceedingly milk-producing food for the cow." It appears from the accounts we have of it, that it is not adapted to the very lightest and poorest soils, but will grow on those which will not bear ordinary cropping. It is cultivated largely on the sandy soils of Flanders, and according to THAER, is the most nourishing, in proportion to its bulk, of all forage, and gives the best flavored milk and butter. It is said, also, to be particularly valuable for plowing under—producing a large crop. It is well worthy of a trial in this country.

The clovers, red and white, are among the best plants for a sandy soil, though they will not at first flourish well on the poorest sands. The red clover is enabled, from its long roots, to draw nourishment from a great depth in the soil, and in common with other plants of the same family, (*Leguminosæ*,) it has the faculty of drawing much of its support from the air. On these accounts, it is one of the best crops which can be grown as a fertilizer—that is, to be plowed into the soil. The carbon of the atmosphere, and the soluble mineral elements of the soil, are combined by the plant, which, by its decomposition furnishes a store of food for other crops. The white clover has a more binding effect on the soil than the red, on account of the peculiar character of its roots, one set of which start near the surface and extend in a lateral direction, fastening the soil in a thick net-work.

The manures of which we have spoken, especially ashes, greatly favor the growth of clover. Plaster, or gypsum, also, on many soils, produces a great growth of this plant. In improving sandy soils, the application of these substances in the outset, may in many cases be found expedient, in order to insure the first crops of clover.

The cultivation of sandy land has of late years received much attention in various parts of Europe. In Great Britain, as well as on the continent, much of the light soil which formerly produced scarcely any thing, and was deemed of little value, is now made to produce good crops of wheat. The feeding of sheep, in connection with the growth of clover and turneps, has always been deemed an important auxiliary in the improvement of this kind of soil. It is by this course, and the application of bones, that the light soils of Norfolk have been made to produce some of the best wheat crops in England. The same kind of soil in other districts, has likewise been greatly improved. Prof. NORTON in speaking on this subject, observes:—"I have seen in the North of England, a fertile tract, covering what was a few years since a wide moor, bleak and desolate. In the centre of the flourishing farms, on a small hill, stands a stone pillar, some seventy feet in height, bearing on its base an inscription signifying that it was erected in former days to guide the traveler, bewildered on those dreary and trackless wastes. Many of the farms immediately surrounding that pillar, now produce thirty-two bushels of wheat to the acre."

The writer of an English prize essay on the culture of wheat, says the course which has been pursued with light soils, "established the fact that the clover root was a better bed for wheat than a fallow, the sheep's treading and droppings were a much better dressing than lime or barn-yard manure; and that blowing sand could, in eight or even four years, be adapted to the production of as many bushels of wheat to the acre as the naked, open, laborious fallow." He thinks the most suitable manure for wheat is bones, in connection with the droppings of sheep, left while feeding on the land; and observes —"In the bones, the phosphorus, which is so essential to the formation of the grain, is supplied, and the urine and dung of the sheep supply the other constituents necessary for perfecting the plant in straw and grain."

The improvement of light and sandy soils is beginning to attract attention in this country, and some examples of very successful cultivation of such soils might be named. In Rhode Island, and in some parts of Massachusetts and Connecticut, tracts of more or less extent are fairly reclaimed and brought under a profitable course of cropping.

Several trials have been made in cultivating the sandy plains near Albany, which deserve notice. Mr. J. McD. MCINTYRE is the owner of 900 acres of this land, eight miles from Albany, which came into his possession about ten years since at $10 an acre. It was then mostly covered with pitch pines, generally of small size—the whole growth not amounting to over twelve to fifteen cords of wood to the acre. In some places, the growth was only small bushes, and scattering shrub-oaks. Mr. McI. began farming on this land as an experiment, determined to proceed cautiously and on a comparatively small scale, till the profit or loss should indicate the proper course. The first results having been favor-

able, he has lately extended his operations; has now cleared in one body, 90 acres, to which he is making yearly additions; and intends to go on in this way till he has made a farm of 500 acres.

His course of procedure in regard to this land, has latterly been to plow it as soon as the wood and bushes are off, and plant potatoes. The yield has never been less than 100 bushels to the acre. Last year seven acres yielded in the aggregate 900 bushels. No manure is applied to this crop. The potatoes have been sold at from 50 to 62½ cents per bushel. The crop has generally more than paid all expenditures on the land, including clearing, cultivation, &c. The second season, the land is sown to oats and clover, to which is added, on the more moist portions, timothy and red-top. The first crop of oats usually averages 40 bushels per acre. The clover is either mowed or pastured with sheep—sometimes mowed the first year and pastured the second. It is then, usually, plowed again, 15 loads (30 bushels to the load,) of rotted manure applied to the acre, and planted to corn, potatoes or turneps. The best portions are taken for corn, and the average yield of this grain has been 40 to 45 bushels per acre, and in one instance, 63 bushels per acre were obtained. The yield of turneps has been from 400 to 550 bushels per acre. Last year, notwithstanding the prolonged drouth, seven acres gave 2,800 bushels. The land is then laid down with oats, clover and grass seeds. The second course of crops—that is, after the land has been once in clover—is usually better than the first. Ten acres of oats in one instance gave 610 bushels—or 61 bushels per acre. The weight per bushel last year, when oats were generally light, was 35 lbs. The crop of clover has been from one to two tons per acre—the best portions yielding, at the second course, fully two tons.

Sheep, (South Downs,) are the principal stock kept on the farm. There were last year 120 head of sheep, two oxen, two cows, and three horses. This stock did not consume all the hay, ten or twelve tons being carried off the farm. The turneps are fed, in quantities according to the condition and circumstances of the sheep—ewes with lamb and such as suckle, receiving the greatest allowance. Clover hay, passed through a cutting machine, is their dry food in winter.

This farm is generally rather level; but there are many knolls of greater or less height. The level part is not subject to become very dry, except at the surface; the knolls are lighter, and in some instances the soil is liable to be moved by winds. After they have once been set in clover and pastured with sheep, they remain stationary. Where clearings have latterly been made, the lightest knolls, where the soil would be most likely to be blown, have been left in trees, and the underbrush being removed, these little groves, covering the principal eminences, give the fields a picturesque and park-like appearance.

An experiment was tried in feeding off turneps with sheep, in the fall, on two acres of some of the lightest of this land. The sheep were put on in November, and when they had cleared off the crop, the ground was plowed. The next spring, it was sown to barley, and the yield was 42 bushels per acre. The only manure was the fifteen loads per acre for the turneps and what was left by the sheep while feeding them off. The soil was much compacted by the tread of the sheep and enriched by the manure and urine—the benefit of the course being seen in all the succeeding crops. The soil became well swarded with clover and grasses, and still retains its tenacity.

Mr. McI. considers clover, turneps and sheep, the chief instruments of improvement for this land. It is certain that the land grows richer, produces larger crops, and supports more stock per acre under his system. The farm has derived little benefit from foreign manures. The application of manures purchased in the city, was once tried, but, with the cost of transportation, was found to be too expensive. Care has been taken, however, to save every thing which could be converted into manure on the farm.

One considerable advantage of this soil is, that when crops are fairly started, they are comparatively sure, whatever may be the season as to wetness or dryness. They are not likely to suffer seriously either from excess or deficiency of moisture. The large average product of Mr. McI.'s farm, is owing in a great degree to this fact. So constant has been the growth of herbage on this farm through the season, that even in our extreme drouths, the pastures have supported from four to six sheep per acre.

We might refer to other examples of the profitable cultivation of this kind of land—especially to some tracts devoted to the production of vegetables for market—but the length of this article renders it necessary to defer further accounts till another occasion.

Agricultural Discussions.

Wheat Culture.

The discussion in relation to the culture of wheat, which took place at Albany, at one of the weekly meetings held during the past winter, brought out some useful facts which we think are not generally known, and their insertion in our pages may interest and benefit our readers.

Mr. Brewer, of Tompkins county, said he had cultivated wheat for more than twenty years, and would give some of the results of his experience. A part of his farm, which in 1830 was an open common, has been wholly devoted to wheat and clover since that time—having produced thirteen crops of wheat and eight of clover. The soil is rather a gravelly loam. His farm is on one of the hills, towards the head of Cayuga Lake, which it is said were burned over by the Indians every year. He had made various experiments in plowing at different depths—from three inches to seven inches—and has always had the best crops where the furrows have been the shallowest. Usually plows but once for wheat; has sometimes plowed in May, but had no better crops than when he plowed in September, just before sowing. The yields he had obtained were from sixteen to twenty-six bushels per acre. On new land—stiff soils for instance—it might be necessary to plow more than once for a wheat crop, and in such cases it might be better to plow deep the first time.

Mr. B. stated that he had made some trials with various quantities of seed per acre, as 1½, 1¾, 2 and 2½ bushels, and had usually got the best returns from the latter quantity; that is, 2½ bushels of seed had given from 2 to 3 bushels more yield per acre than 2 bushels of seed, and 6 bushels more than 1¾ bushels seed. He had not been plagued with rust but once in twenty years. Was seldom annoyed with the Hessian fly or with the wheat midge; but the wheat has often been much injured by these insects in vallies, when it was not noticed on the hills. Has commenced sowing wheat in drills; sowed a

part of his crop in this way last fall; the drilled portion looked much the best at the setting in of winter. Saw two fields of wheat last year, adjoining each other, on one of which the seed was drilled in, and on the other sown broadcast; the drilled yielded much the best. Drilled wheat stands the winter best; the small ridges between the rows are constantly working down, and keep the roots of the wheat covered.

Mr. B. spoke of the Etrurian wheat, which had lately been introduced, and had so far done well—it weighed 64 pounds to the bushel.

Mr. LAWRENCE, of Yates county, differed from the preceding speaker in regard to the proper depth of plowing. The remarks in favor of shallow plowing, seemed strange to his ear. The farmers of Yates *improve* their land by deep plowing. The farm which he occupied had been rented for many years previously to its coming into his possession, and had been plowed about four inches deep, and produced 12 to 15 bushels of wheat per acre. He at once plowed it six to seven inches deep, and raised the first seasen 30 bushels of wheat to the acre. It was the general expression, in his county, that deep tillage was the best for all crops.

He had tried subsoiling; first plowed with a common plow, seven inches, then run the subsoil plow the same depth—cross plowed before sowing wheat—has invariably had the best crops where he has subsoiled —has sometimes subsoiled a portion of a field and left the remainder plowed only in the ordinary way, and the yield is always in favor of the subsoiled part. His is a strong lime-stone soil, and he intends to subsoil his whole farm, being satisfied that it will pay. He makes great use of clover as a fertilizer, and uses plaster to benefit the clover. Never could perceive that plaster benefitted the wheat much, but it greatly increases the growth of clover. He attributes the improvement of the soil by clover mostly to the roots; they penetrate the earth to the depth of two to two and a-half feet, and raise the soluble substances on which the plant feeds, to the surface, where, by decomposition, they supply food to the wheat crop.

Mr. L. said wheat was formerly raised in Yates county chiefly on fallows; but latterly, the more common course is to take first corn, then barley, then wheat—the corn generally manured—but it must be remembered that this cannot be done on a poor soil. He had tried wheat after various kinds of grain, but it does best after barley. The system of drilling wheat is beginning to be practiced in Yates county, and Mr. L. concurred with what had been before said in regard to the advantages of this mode of sowing. Palmer's is the kind of drill most in use in his neighborhood, and it gives good satisfaction. The quantity of seed sown can be regulated to a quart to the acre. It covers the seed one and a-half to two inches deep. The rows are nine inches apart. The cost of the machine is $55. The best varieties of wheat in Yates county, are the Hutchinson, Soule's and Flint. Many preferred the Hutchinson on account of its earliness and freedom from rust. It would ripen two weeks earlier than the red chaff. Mr. L. thought they raised as good crops of wheat in Yates as in any county in the State. He had himself raised forty-four bushels per acre on sixteen acres, in 1846.

Lieut. Gov. PATTERSON said his experience was in favor of deep plowing. The wheat lands in the Genesee valley, when new, produced about fifteen bushels of wheat per acre. They were plowed shallow—the farmers generally had not then sufficient strength of team to plow deep; now they plow much deeper than formerly, and obtain from twenty five to thirty bushels per acre. In Livingston county, thirty-five bushels per acre were obtained on some farms. Some farmers there, now plow ten inches deep. Deep tillage has many advantages; an important one is, that it enables crops to stand drouth. As to varieties of wheat, the old red chaff bald had done best with him, and he had tried many kinds. The Soule's variety had done better than the flint; but two crops of the red chaff are better than three of the flint. The blue-stem is being introduced, and meets with favor. The proper time to sow wheat in the Genesee valley, is from the 15th to 25th of September. If sown earlier than this, it is very liable to be injured by the Hessian fly. As to the quantity of seed per acre, he thought a bushel and a-half, if thrashed with a flail or trodden out by horses, was about right; if the seed was thrashed with a machine, two bushels per acre were necessary. The difference was owing to the wheat being broken in passing through a machine, so that many of the grains would not germinate. In regard to summer fallowing, he had had better success with wheat on ground so prepared than in any other way, and thought he could raise wheat in that way cheaper than he could raise corn or oats. As a crop to precede wheat, he considers peas preferable to any kind of grain, or any crop, except flax. The cheapest manure for wheat is clover, though he would use all the manure from the barn-yard; considers a good crop of clover equal to twenty loads of ordinary yard manure per acre. His practice is to sow six to eight pounds of clover seed per acre—seed costs about ten cents per pound—in spring sows 100 pounds of plaster per acre—pastures the clover till latter part of May and plows it under in June—could never see that plaster benefitted the the wheat, but it makes the clover, and the clover makes the wheat. He is much in favor of the system of drilling wheat. Wheat put in by this method is less likely to be winter killed. The roots of grain that is sown broadcast, are often injured by the earth being blown off from them; by the drill system, this is prevented—the earth which forms the ridges between the rows being blown over the wheat, keeping the roots covered. His wheat crops have sometimes been forty bushels per acre—has raised 30 bushels per acre on sixty acres.

Mr. COWLES, of Onondaga county, said there was great variety of soil in that county—that on which oak and chestnut constituted the chief timber growth, was best for wheat; but 30 years ago this kind of land was generally thought good for nothing. When it was first tilled, it was plowed about four inches deep, and it did not produce very well; now it is plowed from seven to ten inches deep, and the crops are good and the land is growing better. On this kind of land, plaster benefits all crops; but on some other soils plaster has no apparent effect. On the chestnut and oak lands, the best crops of wheat are obtained by sowing about the first of September. He had noticed the effect of different crops on wheat. A field was sown as follows:—one-third with peas, one-third with barley, one-third with oats; the next crop was wheat; it was best after the peas, next best after barley, and poorest after oats. So far as his observation had gone, wheat was generally poorer after oats than after any other crop. On his land wheat was generally best after a summer fallow. As to varieties, the old fashioned flint was best—the Canada flint next best. He related an experiment: a neighbor of his took some winter wheat—a white variety—put it into tubs, wet it, and left it to freeze—it being in the winter season.

It remained frozen till spring, when it was sown; the produce was a *red spring* wheat, which had been continued in his neighborhood until this day. This experiment convinced him that all wheat was of one species, and that varieties might be originated by causes unusually affecting the germ or the plant.

Lieut. Gov. PATTERSON had no reason to doubt the result of the experiment just cited; it brought to his mind the long-contested point of the transmutation of wheat into chess. He had known chess produced under circumstances which seemed to favor that hypothesis. He knew a piece of new land, just cleared from the forest, at a considerable distance from any other cleared land, sown to wheat, and on a swale, in the middle of the piece, there was scarcely anything grown but chess.

Mr. LAWRENCE said he could not believe that a grain of wheat ever produced chess. All the cases of supposed transmutation that he had ever heard of, could be explained without resorting to such an unnatural idea. It was sometimes said that *clean* wheat was sown, and it produced chess. He had often examined wheat that was called clean, and found chess enough among it to produce all that was grown among the wheat. In wet places the wheat would die out, but the chess would grow all the better, and people were astonished at the quantity.

Mr. ———, (whose name we did not learn,) made some remarks in regard to smut. He had sown a piece of ground with seed wheat that was a little smutty, but scarcely enough to be noticed—did not apply lime or anything to prevent smut, and the crop was two-thirds smut. His son sowed some of the same seed, prepared by soaking in brine, and then limed, and the crop had hardly any smut in it. He inquired whether this accorded with general experience. Several gentlemen replied that they had never been troubled with smut when the seed was treated with lime, alkali, or vitriol.

Neglected Manures—No. 6.

Blood, Flesh, Animal Charcoal, Glue Refuse, Coal Ashes, Adulterated Manures.

ANALYTICAL LABORATORY, YALE COLLEGE,
New-Haven, Conn., May, 1850.

EDS. CULTIVATOR—In my last letter, I called attention to several powerful manures, remarkable for the large quantity of nitrogen which they contained; there are quite a number more of the same class that are valuable, and I will select two or three of them.

One of the most efficacious and energetic manures known, is to be found in flesh, of every description. Under this head, I include the blood, as that has nearly the same composition as the flesh. They both contain some 15 per cent. of nitrogen; owing to this, and to the quantity of water which enters into their composition, every form of flesh and blood is strongly disposed to speedy putrefaction. This is seen in the flesh of animals, and of fishes after death, especially whenever the temperature of the air is a little elevated.

This facility of decay, although it has its disadvantages, causes them to produce an immediate effect when applied as manures. In France, blood is dried and sold in the form of cakes; these if kept dry, will remain unchanged for a long period. The same thing may be accomplished with flesh, but only at the expense of much time and trouble. There are few farmers but have seen the remarkable effect produced by some small dead animal, when buried under a vine or young tree, or under a portion of some growing crop. It pushes the plant rapidly forward, makes its foliage luxuriant, and of a dark green, healthy color. On the field of Waterloo, the huge graves which were indiscriminately filled up with men and horses, were distinctly marked out for years, by the superior luxuriance, and the vivid green color of the grain which grew over them.

Facts tending to a similar conclusion, as to the great value of these manures, abound in almost every section of the country, and yet for the most part they are entirely neglected. If a horse, or cow, or sheep dies, it is drawn out to some lonely place, where the crows and dogs soon make away with its flesh. This is not, I am aware, true of all places; I know of some regions where they are too wise to throw away such rich manures, where animal flesh, fish refuse, &c., is eagerly sought after; these are not, however, the majority.

I have been told of a case near the capital city of one of our largest states, where the offal from the slaughter houses, was allowed to accumulate year after year, in a hollow, down the bank of which it was thrown. The farmers would not pay for it even so much as six cents per load, and many of them would not take it away for the mere expense of cartage. This mass of material would have brought from $5 to $15 per ton, in England, and would have been eagerly sought for at that price.

When manures of this class cannot be used immediately, they should be made into compost, by mixing with large quantities of some absorbent material; if this mixture is sprinkled over with gypsum occasionally, nearly all escape of valuable substances may be prevented.

Another valuable manure, which owes much of its efficacy to blood, is to be found in the refuse animal charcoal, or bone black, of the sugar refiners. Some refiners now employ gelatinous alumina largely for purifying sugar, in place of blood, but where the latter is used, the worth of the manure is greatly increased. The use of alumina deteriorates it. Various valuable substances besides blood are present, as the impurities of the sugar, and usually some gypsum also; the animal charcoal itself is simply burned bones crushed to a powder. We have then in this refuse, an abundance of nitrogen in the blood, and of phosphates in the bones, the two most important essentials for a good manure. It is worth $5 to $10 per ton, in England and France; in this country, it has been almost given away, so far as my experience of its use has extended.

In the yards of glue factories, a refuse accumulates, which is in England called *scutch*. It consists of variable proportions of animal matter, hair, &c., mixed with lime, this last partly as phosphate. This substance has an exceedingly offensive smell, and is largely used by the farmers. It varies a good deal in its composition. Prof. Way, chemist to the Royal Ag. Society, has lately examined several samples, and considers them worth from $5 to $6 per ton. This manure then, would not bear a long transportation, but would be valuable to farmers near the glue works.

The English and Scotch farmers, have in their zeal for refuse manures, gone in many cases to the opposite extreme; and have paid large sums for various substances because they were refuse, and seemed cheap, which turned out to be almost valueless. Prof. Way gives some instances of this kind; one of these is so remarkable that I will insert it here. It was an artificial manure or mixture, sold as remarkably adapted to the turnep crop, and greatly puffed as made from cheap refuse substances

of a valuable nature. The price was nearly $40 per ton, and large quantities were disposed of. Great disappointment was experienced in its effects, and a sample was analysed by Prof. Way; his result was as follows:

Water,	4.93
Sand and Clay,	74.16
Organic matter,	4.43
Phosphate of Lime,	trace.
Oxide of Iron and Alumina	13.88
Carbonic acid,	trace.
Sulphuric acid,	none.
Lime,	1.05
Common salt,	1.62
	100.07

This, as shown by the analysis, was nothing more than a red soil, crumbled down to a tolerably fine powder, and was a most unparalelled piece of imposition. Most of the dealers, when making up such manures, add something to them which has a most powerful and offensive smell; this causes them to take with the farmers at once. They have learned that guano, animal manures, &c., have such smells, and hence conclude that all highly scented substances are fertilizers. If the dealer can succeed in imparting a most intolerable odor to his worthless mixture, he is pretty sure to find a ready sale at good prices. A man must not then, in this business, *follow his nose* too implicitly, but must call in the aid of other senses also. If a high price is to be given for a manure, it should be one of acknowledged character and value.

As concentrated fertilizers come into more general demand in this country, and as their importance becomes fully appreciated, dealers will doubtless be found, who will attempt impositions of a similar character. I perceive already, advertisements of various artificial manures; these may so far as I can say, be of good quality, but I would still urge the necessity of caution, in all cases where the dealer is not known to be honorable, or where he cannot give some sufficient guarantee as to the quality of the article that he sells.

In the preceding letters, I have indicated numerous natural manures heretofore in a great degree disregarded; some of which may, in almost every locality, be obtained without much difficulty or expense. Many of these are entirely neglected as refuse, and others can be bought for a mere trifle. I would then recommend that the farmer, before paying largely for such manures as guano, and others of the same class, look carefully about him and see if there are not to be had some such substances as I have named, that may be made available by a little exertion and perseverance, in collecting and preserving them.

There are few neighborhoods where a man who is watchful, cannot in the course of a year, collect a considerable quantity of these otherwise neglected substances. When all of the farmers come to understand their true value, they will no longer permit them to leave their own land, and the supplies will of course become limited. Before their importance is generally known, those who are in favorable localities for the collection of such materials, have an opportunity of enriching their soils with comparatively a very small outlay.

I have hitherto mentioned, with the exception of bones, manures whose worth depended for the most part, on their organic portion, and on the nitrogen which this contained. There is another important class, consisting of manures wholly or chiefly inorganic, some notice of which seems necessary.

The value of wood ashes, seems now to be quite generally recognised; among those who can ever pretend to be good farmers, they are no longer neglected. Coal ashes, however, are generally thrown away, and in the large cities immense quantities are thus wasted. We have as yet, no detailed series of analyses, from which to calculate the actual value of these ashes. Some partial investigations made in my own laboratory, show that they contain several pounds in 100, of soluble substances. These are of the same class as those which occur in wood ashes. In many places the soap makers will give a small price for these ashes, thus showing that they are able to extract some alkaline matter from them. All this, is of course valuable for the soil. I am intending to pursue the investigation of this subject on the first opportunity, and hope to lay before the community some important results.

In the mean time, I have no hesitation in saying, that these ashes will pay well for their preservation; and that it would be an object for farmers in the vicinity of cities, to send in their teams for a portion of the vast quantities which are annually thrown away.

In the course of a conversation a few days since, with a very intelligent gentleman, who has a farm near Hartford, Ct., he informed me, that according to his experience, coal ashes were worth upon his land, from one-third to one-half as much as wood ashes. This was reliable practical evidence, and was in accordance with the views that I had previously entertained. JOHN P. NORTON.

Composition of Hog and Cow Manures.

BY J. H. SALISBURY, ALBANY.

Per centage of water, dry matter and ash, in

		Hog Manure.	*Cow Manure.*
Per centage of	water,	82.30	77.40
do	dry matter,	17.70	22.60
do	ash,	3.64	3.11
do	ash, calculated on the dry matter,	20.565	13.761

About four-fifths of the weight of these manures is water. The hog manure contains about five per cent. more water than the cow manure. It will be noticed too, that these manures are decidedly rich in inorganic matter. A little over one-fifth of the dry matter of the hog manure is ash, while the ash of the cow manure is less than one-seventh of its dry matter.

Composition of the Ash.

	Hog Manure.	*Cow Manure.*
Silicic acid,	45.525	51.275
Carbonic acid,	0.446	0.145
Sulphuric acid,	4.120	60.065
Phosphoric acid and per-oxide of Iron,	29.295	13.160
Lime,	2.870	1.690
Magnesia,	1.160	1.730
Potash,	3.320	4.150
Soda,	10.740	19 145
Chlorine,	0.305	0.370
Organic Acids,	2.085	1.825
	99.366	99.555

Proximate Organic Analysis.

	Hog Manure.		*Cow Manure.*	
	With the water.	*Without the water.*	*With the water.*	*Without the water.*
Chlorophyl, fatty matter, and wax,	0.51	2.252	0.25	1.016
Fibre and other bodies, insoluble in water and alcohol,	15.86	70.022	15.86	64.445
Albumen,	3.21	14.172	5.46	22.187
Casein,	0.26	1.148	0.18	0.731
Dextrine or gum,	1.88	8.300	1.88	7.639
Sugar and Extract,	0.93	4.106	0.98	3.982
	22.65	100.000	24.61	100.000
Water and volatile organic products,	77.63		74.95	
	100.28		99.56	
Per centage of ash in fibre,		16.078		13.871

The percentage of albumen in the dry matter of these manures is evidently greater than the per centage of albumen in the dry food eaten. This corresponds with experiments of Boussingault; that though the weight of the dry manure voided by an animal is always considerably less than the dry food eaten, yet it is sensibly richer in organic matter and nitrogenized bodies. The reason of this, is that relatively a larger proportion of carbon is given off through the lungs in respiration, than there is of nitrogen compounds and inorganic matter assimilated by the system.

Comparative view of the percentage quantity of the inorganic and organic bodies in equal weights of the hog and cow manures.

(Calculated from the foregoing results.)

	HOG MANURE.		COW MANURE.	
	1000 lbs.	one ton.	1000 lbs.	one ton.
	lbs.	lbs.	lbs.	lbs.
Silicic acid,	16.571	33 142	15.947	31.894
Carbonic acid,	0.162	0 324	0.045	0.090
Sulphuric acid,	1.500	3.000	1.886	3.772
Pnosphoric acid and per oxide of iron,	10.663	21.326	4.080	8.160
Lime,	1.045	2.090	0.526	1.052
Magnesia,	0.422	0.844	0.538	1.076
Potash,	1.208	2.416	1.301	2.602
Soda,	3.909	7.818	5.951	11.908
Chlorine,	0 111	0.222	0.015	0.030
Organic acids,	0.759	1.518	0.568	1.136
Chlorophyl, fatty matter and wax,	4.218	8.436	1.980	3.960
Fibre,	131.151	262.302	125.503	251.006
Dextrine or gum,	15.546	31.092	14.888	29.776
Sugar and extract,	7.691	15.382	7.761	15.522
Albumen,	26.434	52.868	42.233	84.466
Casein,	2.150	4.300	1.425	2.850
Water and volatile organic products,	776.300	1552.600	774.950	1549.900
	999 840	1999.680	999.600	1999.200

There is a marked difference in the composition of these two manures; and this difference affords, I think one reason why their effect on the grain crops generally is so different. In organic products they do not materially differ, except in albumen, and in this the cow manure is the richest by about 31 lbs. to the ton. This large per centage of albumen in the cow manure (if this body were as essential as phosphoric acid) would argue that this manure is the best; but experience teaches otherwise. Every farmer knows that generally, in the grain crops, a given weight of good hog manure is worth double its weight of cow manure. The cow manure is the richest in soda by about 4 lbs. to the ton. But the essential difference in the value of these manures, appears from the foregoing analyses to reside mainly in the phosphoric acid. Of this the hog manure contains about 21 lbs. in the ton, while the cow manure has but 8 lbs. in the same quantity. Thus it will be seen that in phosphoric acid, hog manure is the richest by about 13 lbs. to the ton of the manure before it is deprived of water. In a ton of dry hog manure, there is 95.40 lbs. of phosphoric acid, and in the same weight of dry cow manure 36.32 lbs.; giving a quantity in the former greater than that in the latter by 59.08 lbs. to the ton.

In the cultivation however, of potatoes and the root crops generally, cow manure is considered in the main to be equally as good, if not better than hog manure. The foregoing results would incline to the same conclusion, from the fact, that the composition of the former manure corresponds more nearly with the food required by the last mentioned crops; while the composition of the latter is more analogous to the food required by the grains.

It may be well to state, since the dung of the same animal varies in composition with the food eaten, that the cows which afforded manure from which the foregoing results were obtained, were fed principally upon hay; and the hogs, during the summer, upon grass and potatoes, and during the fall and winter upon potatoes, with some pumpkins, apples and soft corn. The manure from the hog sty was of a poorer quality comparatively than that from the cow stable, on account of a little admixture of chaff and straw which had been thrown in for nesting.

Foreign Correspondence.

On the Silk Culture of Austria.

Stuttgardt, Feb. 21, 1850.

In the 14th century the enterprising Venetians introduced the culture of silk into their country, from whence it gradually spread over all those regions of Italy favorable to the silk worm.

In the mountainous regions of Lombardy, where the ever refreshing air of the Alps mingles with the hot rays of the Italian sun, producing a balmy atmosphere in which the mulberry tree bears the most tender leaf, and where the worm thrives and spins the most perfect thread, silk culture has been brought to a great degree of perfection, and the silk of Lombardy is celebrated all over Europe.

There is no branch of industry which yields such rich results from so small an outlay for land and labor as silk growing; agriculture prospers in connection with it, because the mulberry tree takes but little nutriment from the soil, feeds mostly on the balmy air, and leaves the full strength of the soil to the perfection of grain. It does not interfere with the principal operations of farming; after the ground has been prepared for the spring crop, the worm then begins to burst forth from its winter cell, and in 40 days passes through all the stages of metamorphose, and the glossy cocoons furnish the industrious silk grower with the means to secure his other crops, and all necessary domestic comforts.

The reeling and twisting operations give employment to women and children during the greater part of the year, and enable this densely inhabited country to support a large population; and, although England brings great quantities of silk from the East Indies, and the silk crop of France and other countries is steadily on the increase, nevertheless, the demand for Italian silk has been constantly advancing, with a fair prospect of continuing to do so.

According to the last official returns, the yearly production of cocoons in Austria is estimated at—

In Lombardy,	248,000 Cwt.
In the Venetian provinces,	190,000 "
In Tyrol,	30,000 "
In Hungary,	5,000 "
In the Military colonies,	4,000 "
In Dalmatia, Bohemia, &c. &c.,	10,000 "
	488,000 Cwt.

Or, in a round sum, 500,000 cwt. of cocoons.

According to the official statistics, there are now in Lombardy 842,000 Jochs* of land planted with mulberries; a Joch produces on an average 29½ lbs. of cocoons; in Brianza it amounts to nearly 50 lbs. of cocoons per Joch.

The mulberry orchards increase in Lombardy with every year; districts which served as pastures are now planted with this valuable tree, giving to the whole country the aspect of a garden.

In the highly cultivated provinces where land is scarce, the less valuable grape vine must make room for the mulberry tree. According to the estimate

* An Austrian Joch is 1.422 acre.

made in the year 1835, the number of mulberry trees in Lombardy amounted to 16,573,123, without bringing into calculation the mulberry hedges, from which great quantities of leaves are gathered.

A middle-aged tree yields per year, on an average 70 to 110 lbs. of leaves, and 20 lbs. of fresh leaves are calculated for 1 lb. of cocoons.

The yearly crop of cocoons in Lombardy amounts to 248,000 cwt., which would require, according to the above estimate, 4,860,000 cwt. of mulberry leaves. The price of leaves varies; but 2 fl. 20 kreutzers per cwt.* is considered a low price; according to this estimate, the crop of mulberry leaves amounts to 11,340,000 florins; from this sum 2,025,000 florins must be deducted for gathering the leaves, &c., and 9,315,000 for ground rent.

One ounce of worm eggs, or 1½ loth, yields 67 Vienna lbs. of cocoons, which require 1,333 Vienna lbs. of leaves.

Silk culture, as well as farming is carried on by persons who rent the land or trees for half the silk crop; the land owners furnishing one-half of the worm eggs, and the colono or renter, the other half of the seeds, and all the labor and care the worms require.

RAW SILK.—The crysalides within the cocoons, are killed by exposing them to the hot air of heated ovens or to steam; the cocoons are then thrown into boilers or kettles filled with warm water; the threads of 3, 4, 5 or more cocoons are united to form one thread; the product is called *raw silk*. The kettles are mostly heated in the common way, but of late, and especially in Lombardy, they are now heated by means of steam; and for a large reeling establishment, the steam is generated in one or two boilers, and is conducted to the kettles by means of pipes, whereby not only a great deal of fuel is economized, but the silk produced in that way is considered better and of a handsomer appearance, which is ascribed to the uniform temperature which can be kept up with steam. To each kettle two women are required, one to attend to the reeling (malstra) and the other to turn the reel.

Upon this operation depends the evenness and beauty of the thread. The silk growers therefore pay great attention to it, and the superior quality of Lombardy silk is to be ascribed to the perfect management of this simple operation.

The number of kettles in use in Lombardy during the above mentioned operation amounts to about 40,000 which are employed in about 3,500 Filandas, to which 90,000 persons are required.

The operation of reeling lasts from 40 to 50 days; in this space of time the cocoons are all converted into raw silk.

The wages for an overseer, are from 35 to 50 kreutzers; for a maestra, 22 to 30 kreutzers; for the hands to turn the reel, from 8 to 13 kreutzers per day exclusive of a meal (minestra.)

They must keep close at work from early in the morning till late in the evening, with only one hour's recess.

The quantity of wood required for heating the kettles in the ordinary way, averages 50 to 60 lbs. per day; when steam is used, half the amount of fuel is sufficient.

To each kettle belongs a reel, and it is estimated that a reel can work up 800 lbs. of cocoons in 50 days.

11⅔ lbs. of cocoons yield 1 lb. of raw silk; in Brianza it requires less cocoons for 1 lb. of silk, but on an average 1 lb. of raw silk requires 12 lbs. of cocoons.

* One Florin is 50 cents. The florin has 60 kreutzers.

In the operation of reeling, arises an offal consisting of a coarse kind of thread which covers the cocoon. This layer must be carefully removed. The husk which covers the crysalides is used for bed covers, or spun for common silk stuffs. The offal or strata amounts to 10 per cent. of the weight of raw silk, and sells for 12 to 24 kreutzers per lb. The price of raw silk averages 12 florins 30 kreutzers per pound.

FILATORES OR TWIST MILLS.—At the Filatores the raw silk is twisted for the warft (organzin) and weft (trama.) It is done by means of large machines, set in motion by water and horse power. Twisting is carried on the whole year round; this operation makes a loss on silk from the breakage of the threads, knots, &c., which amounts to from 3 to 6 per cent.

In Lombardy, the number of Filatores amounts to about 500, which employ 3,750 men, 7,040 women and 2,015 children. To twist a pound of silk, costs from 1 fl. 27 to 1 fl. 34 krs.; when to this, the cost of reeling is added with 44 kreutzers per lb., the expense of working up the cocoons into twist, costs about 2fl. 15 kreutzers per pound.

The total value of silk of the different countries of Austria, is estimated at 50,500,000 florins, which is to be divided:—

For the Cocoons,.....	42,700,000	florins
Reeling or producing Raw Silk,.....	2,900,000	"
Twist,.....	4,400,000	"
Offal,.....	500,000	"

The raw material has a value of about 43,000,000 fl., which amount is increased to about one sixth of its value, or 7½ millions through the operation of reeling and twisting.

Although silk culture is carried on in the same manner all over Lombardy, the Venetian kingdom, and the southern part of Tyrol, yet each province produces a peculiar kind of silk, each bearing a different character. The best silk is produced in *Brianza;* it is superior to any in Italy, or in the whole world; the next best is that of Varese, in the province of Como, and Bergama.

Silk culture has especially been improved in Brianza, through the influence and labors of the silk-growers' societies of Mayland and Como. Through various improvements and good management, silk has there obtained greater lustre, softness and suppleness, which was formerly only possessed by the silk of Turin.

The finest and most glossy stuffs are manufactured from the silk of Brianza, and the industrious and highly intelligent inhabitants of that district are considered masters in the treatment of the silk worm, as well as in the operation of reeling and twisting.

Bergamos silk has an old established reputation, and is much sought after for the English market.

Brescia silk comes next, then Cremona, and that of a part of Mantua, where silk culture has been of late much increased and improved.

Lodi and Pavia are, from their low situations and practice of irrigating the meadows and fields, less favorable to the culture of silk. The worm there spins a coarse and less uniform thread, which is to be ascribed to the dampness of the atmosphere, in which the worm works more sluggishly than in provinces of a greater altitude, where the air is more pure and dry.

Verona and its vicinity, with several districts of Mantua, produce the most celebrated sewing silk. It is not long since the operation of reeling was left in the hands of inexperienced reelers, who produced a dirty, unequal and spotted thread; but of late, more attention has been paid to the operation; the cocoons are now picked and the double ones

thrown aside, because they always yield an inferior article.

Verona is the great depot for sewing silk

Padua and Rovigo furnish twisted silk, (tortigliata,) of which cords of all colors are made for the Levant market.

Vicenza and Bassano's principal products are double thread Tram silk; it is rather heavy and not very supple, which is ascribed to the hard water used in reeling; it seems that that operation is not well attended to, and the careful removal of the coarser threads on the outside of the cocoon is much neglected, which makes the thread less uniform and pure.

The silk of Tyrol has a fine appearance, and it would be still more even if the maestras would pay more attention to cross the thread properly in reeling.

The silk commerce of Italy has its principal seat in Lombardy. It has undergone great changes during the last forty years, and Italy now produces the best silk, and much more than any other country in Europe.

The facility with which silk is grown and the great profits it yields, induced the silk growers to extend this branch of industry as much as possible.

In the year 1800, the total amount of silk grown in Lombardy alone, was estimated at 1,800,000 lbs. which has since increased to 4,000,000 lbs.; it may perhaps, in the next twenty years, run up to 6,000,000 lbs.

The political difficulties with which Italy has had to contend since the beginning of this century, have much impeded the development of the culture of silk. Napoleon's policy of the continental system closed the English market to the Italians. The East India Company brought to England, Bengal silk as a substitute for the Italian silk; though of an inferior quality, it answered very well for certain articles.

	Italian Silk.	*Asiatic Silk.*
	Pounds.	Pounds.
In the years 1800—1802,	2,011,680	1,350.870
do 1803—1805,	2,437,160	1,306,580
do 1806—1808,	1,917,080	1,704,390
do 1809—1811,	2,280,740	1,198,710
do 1812—1814,	3,147,540	2,516,690
Suma,	11,794.200	8,077.240
Mean average,	786,280	538,483
But in the years 1815—1817,	1,281,280	2,903,600
1818—1820,	3,633,000	2,497,140
1821—1823,	4,024,500	4,432,780
1824—1826,	5,144,000	4,689,640
1827—1829,	6,024,600	5,857,880
1830—1832,	5,308,500	6,138,750
In the year 1833,	1,883,400	1,794,100
do do 1834,	1,631,095	3,143,127
Suma,	28,930,375	31,457,017
Average,	1,446,519	1,572,851

The foregoing tables show that in former periods, the quantity of Italian silk brought into the market, over reached the quantity of Asiatic silk nearly 50 per cent.

In the second period, the importation of Asiatic silk increased considerably; the Italian silk enjoyed an equal share of increase. Of late, a considerable quantity of silk goes to Germany and Switzerland, and the average exports of Austria, are—

To London, ... 1.330, 100 lbs.
To Lyons, ... 1,695,000 "
To Germany and Switzerland, ... 2,552.500 "
To Russia, ... 169,600 "

According to the official reports, the quantity of silk in Lombardy has increased three-fold within 40 years, and the price doubled; consequently, the income from silk has increased six-fold in forty years

The same official reports estimate the value of exported silk to 30,446,640 florins; the amount consumed in the Empire to 12,000,000 fl.; together, to 42,446,640 florins.

To raise 438,000 cwt. of cocoons, requires, 8,760,000 cwt. of leaves; calculating that one man can gather 50 centners in 40 days, employs 175,200 hands in gathering leaves. To every $\frac{3}{4}$ metric ounces of eggs,—the labor of one woman is calculated to raise the worms, yielding about 100 lbs. of cocoons, which requires 438,000 hands.

Reeling 6,386,000 lbs., employs for 50 days, ... 150,000 hands.
To twist 4,568,000 lbs., requires, during 200 days, 20,000 "
The preparation and manufacture of stuffs from the offals, ... 13,000 "

Together, ... 796,200 Indivlduals

About one-sixth of the whole population of the Lombardy and Venetian kingdoms is thus engaged in this branch of industry. C. L. FLEISCHMAN.

IRRIGATION.

EDITORS OF THE CULTIVATOR—While in Worcester, Mass, a few days since, I was invited by Col. J. W. LINCOLN to examine his system of irrigation, and to accompany him down the Blackstone river into Rhode Island, to look at the watered meadows which so frequently occur on that stream. I was agreeably surprised to find such an extensive and systematic use of water for the purpose of irrigation; and feeling quite an interest in the general subject of watering land by artificial means, I will attempt a description of what I saw in my recent journey, and state some of the principles of the action of the water of irrigation.

Col. Lincoln has 30 acres of interval land, situated on the margin of the Blackstone river, which he has been watering from that stream, for twenty years. A portion of the land had been imperfectly irrigated by a previous owner; but when the Colonel took possession of the land, he found the ditches in so bad a state, and so poorly arranged, that he commenced entirely anew with a thorough and systematic process. The surface of the meadow is considerbly uneven, and it required some skill and care in laying out the ditches so as to conduct the water over the meadow. He thinks that if the thing were to be done again, he should first graduate the surface so as to get the water over the land with greater facility. As it is, however, every part is well watered.

The ground is, as is usual with alluvial lands, highest near the stream, descending thence towards the foot of the uplands, and also descending with the river. On the side of the meadow joining the higher lands, there is a hollow, running through the entire length of the junction, with branches diverging, and some of them extending across the interval; and these hollows are very convenient for draining off the surplus water of irrigation. Whereever it is necessary to convey the water across these hollows in order to distribute over land beyond them, an embankment is raised, with the carrier ditch in the top, and thus the water is conducted over at the proper level. Cheap stone culverts are constructed in these embankments, in order that the trench drains may not be interrupted in their work of drainage. A thorough dam is thrown across the river, a little way above the meadow; in it are strongly secured gates, easily opened or shut, as more or less water may be required; a stone flume receives the water from the dam, and passes it into a main carrier ditch, running from thence through the entire length of the meadow on the highest ground. Small-

er sectional carriers branch out as nearly at right angles with the principal carrier as the surface of the interval will admit, and with such frequency as to conduct the water on to every level of the land. Little gutters are made with a hoe, in the sides of these sectional carriers, through which the water flows in small streams, and then trickles over the entire surface of the ground. To determine the particular place for these ditches, so as to get the water properly over the land, is a work of skill, and requires a practiced eye, together with the aid of a spirit level, and the frequent sticking down of small stakes, for the guidance of the plowman in turning his furrow for the sectional ditches. It is not found advisable to give much descent to the water in the carriers, because it would have too much tendency to the lowest place, and would not flow over the land with sufficient equality. One or two inches fall in every ten feet of length, is enough. Flumes made of plank, with gates in them, are placed in the main carrier ditch, at suitable intervals, and also at the mouth of the side carriers, and by opening and shutting these gates, the water is taken off the land at one place, and let on at another, at pleasure.

When the water is first let into the ditches, if any slight inequalities in the sides or surface of their banks occur, by which the water escapes before they are filled, enough earth is taken from the bottom of them to make all level, so that the water may serve all parts of the land equally. Trench drains are made in the hollows, to conduct off all surplus water, and prevent water grasses from appearing in the sward. In cutting the trench drains, a careful examination with the aid of the level was made, in order, if possible, to give the drains such a direction as should conduct the water to land on some lower level, where it could be again used for irrigation. Much advantage was in this way gained.

In these various ways the waters of the Blackstone are conducted to, and spread over thirty acres of land. The ditches once made, nothing more has ever been necessary in order to thorough irrigation, save the making of slight repairs in the sides of the ditches, occasioned by meadow moles, and the feet of the cattle while feeding off the aftermath.

As I walked over this irrigated ground, observing the rich sediment with which the never failing waters of the river were charged, the thoroughness and convenience of the dam, gates and ditches, for controling the irrigation, and the evidences of the fertility which had been imparted to the meadow, I thought to myself, here is going on that "gallant operation" so quaintly and yet so tersely described by old Walter Blith in his *English Improver*. He remarks—"If either thy land be gravell, or of a sound warm sandie, or mixed nature, and any whit descending, then any running streame will have a gallant operation. The warmer, lighter, and sounder is the land, the greater is the advantage. These particulars discovered, out of question thou hast a wonderful advantage before thee, especially if thou hast any great length and quantity of land along the River, or by a great roade way side, or else hast any good land floods from great townes or cities, make as much of these advantages, and apprise them as thy lands, for though hereby thou canst make thy lands no more, yet thou mayst make them so much better, almost as thou canst desire. And so doe but a little consider of the way of both fitting thy land to thy water, and thy water to thy land, with the truest, naturalest, and properest seasons for bringing it on and taking it off, and thou shalt see an admired issue. For this seriously observe, that the water running trickling among the grasse and upon the earthe, leaving her thicknesse, soyle, or filth, which I call richnesse, among the grasse, and upon the earth, and itself runneth away into the drayning trench, and troubleth thee no more, and so the goodnesse of the water is as it were riddled, screened, and strained out into the lands, and the leanesse slideth away with it."

Col. Lincoln's meadow is naturally of an exceedingly light sandy soil, with a loose open subsoil, so much so that at the commencement of the irrigation, it was difficult to cover parts of it with a grass sward at all. But by appropriating the "wonderful advantage" afforded by the river, by "fitting the land to the water, and the water to the land," he finds that "the" natural "leanness slideth away," and a remarkable fertility takes its place. His interval now gives him an average yield of two tons of hay per acre, per annum. There has been no season, however moist, for the past twenty years, that he has not derived much benefit from the artificial watering.

The Colonel thinks there are no means so cheap or expeditious as those afforded by irrigation, for improving and rendering permanently productive, all dry, barren, sandy, or gravelly lands. Give him water, he says, and just so far as he can spread that, he has no occasion to draw and shovel manure, for the water will bring on, and diffuse, and establish fertility. At the commencement of this enterprise, he took down his old barn, and erected another in its place, of much larger capacity; and although the crops from the farm for the first few years did not quite half fill the new barn, yet there is now no spare room,—the increase being in the greatest degree owing to the irrigation. The artificial watering is indirectly advantageous to the whole farm; for while the meadow yields vastly more hay than formerly, it yet requires no manure from the yards; the extra produce supports a much larger stock of cattle, double the manure is in consequence made, all of which is spread upon the uplands,—thus giving a progressive improvement to all the land. The hay from the irrigated land is found to be of a very milky quality, and the cows and other stock are very fond of it for its softness and succulency. Then, too, there is a full bite of aftermath on the meadow for the cattle in the fall, which comes at a time when the upland pastures are used up for the season.

Now that the ditches are all completed, it takes but a half hour to an hour each day to manage the irrigation; but this daily attendance, however, must not be remitted; on the contrary, much depends upon careful attention and the exercise of judgment, for if the water is not frequently changed from place to place, it will stagnate in the soil, wild grasses will spring up, and the quality of the hay will be injured. No part of the meadow, therefore, received the water more than two days in a week, and after the grass has got well started in the spring, the water is not usually continued more than one day in the week, in one place. In this way the water is used, from early spring to late autumn, saving an interval commencing two to three weeks before haying, and ending at the close of that business. The best success is found to follow, where the water can be made to flow gently over the surface,—a rapid current being apt to carry off fertilizing matters, and a sluggish inactivity being apt to bring in wild grasses. Gentle, but constant activity of the water, is therefore considered to be a leading maxim in the irrigation.

"It is observed," says Prof. Johnston, "that

the good effects of irrigation are produced only by *running water*—coarse grasses and marsh plants springing up when the water is allowed to stagnate. Running water comes upon the field charged with gaseous matter, with oxygen and nitrogen, and carbonic acid, in proportions very different from those in which these gases are mixed together in the air. To the root and to the leaf also, it carries these gaseous substances. The oxygen is worked up in aiding the decomposition of decaying vegetable matter. The carbonic acid is absorbed by and feeds the plant. Let the same water remain on the same spot, and the supply of these gaseous substances is soon exhausted. In its state of rest it re-absorbs new portions from the air with comparative slowness. But let it flow along the surface of the field, exposing every moment new particles to the moving air, and it takes in the carbonic acid especially with much rapidity, and as it takes it from the air almost as readily, again gives it up to the leaf or the root with which it first comes into contact. But further, if water be allowed to stagnate over the finer grasses, they soon find themselves in circumstances in which it is not consistent with their nature to exhibit a healthy growth. They droop, therefore, and die, and are succeeded by new races, to which the wet land is more congenial."

In addition to the watered meadow, Col. Lincoln has several acres of upland, situated on a southern slope, which he irrigates temporarily by turning on a small stream issuing from springs in the highlands beyond, and which receives sufficient accessions from the rains and melting snows of early spring to adapt it to that purpose. The brook is brought on to this land at the highest point in the slope; a ditch, made by the plow, runs aross the land, at right angles with the descent, and the water, trickling over the lower side of the ditch, diffuses itself over the surface for a considerable breadth, until it is caught by another ditch, lower down, and parallel to the first, when it is again spread, and so on, to the bottom of the slope. If for any reason it is desirable to bring the water on to the land at a lower point than the first named ditch, it can be done by regulating the gates at the mouth of the ditches. In this system of irrigation it is not found to be so important as in the flat land mode, to change the water from place to place frequently, though it is still well to vary its course at short intervals, giving equal benefit to all portions of the land.

Col. Lincoln thinks that irrigation should not be neglected by any farmer who can turn even a small stream, or springs, on to his grass lands for only a few weeks in the spring. On land thus partially irrigated, the grass starts very early, the earth having acquired a thicker covering, is afterwards less affected by drouth, and the crop of hay, although less than on lands receiving a more constant watering, is yet much superior to that on adjoining land, of equal quality of soil, on which water has not been turned. There are many temporary streams, formed in hilly districts in the spring of the year by the rains and melting snow, that collect in their course a rich sediment, which may be arrested and distributed by the water among the grass roots of our pastures and mowings, instead of passing to the river to make a useless deposit in its bed, or aiding to fill up a neighboring mill-pond. Oftentimes, too, by throwing a cheap embankment or dam across the lower end of valleys among the hills, these waters may be bottled up for a more prolonged use.

Even spring water, containing no perceptible sediment, is found in practice to be very beneficial in irrigation. Prof. Johnston remarks that "in limestone districts, these waters are generally impregnated with carbonate of lime, and in other districts again, the springs contain gypsum and common salt, and sulphate of soda and sulphate of magnesia, and thus are capable of imparting to plants many of those inorganic forms of matter, without which they cannot exhibit a healthy growth."

Sir Humphrey Davy remarks that "even in cases where the water used for flooding is pure, and free from animal or vegetable substances, it acts by causing the more equable diffusion of nutritive matter already existing in the land; and in cold weather it preserves the tender roots and leaves of the grass from being affected by frost. In 1804, in the month of March, I examined the temperature in a water meadow near Hungerford, in Berkshire, by a very delicate thermometer. The temperature of the air at seven in the morning was 29 deg. The water was frozen above the grass. The temperature of the soil below the water, in which the roots of the grass were fixed, was 43 deg."

Sinclair, in his *Code of Agriculture*, remarks that "clear spring water, in the state in which it issues from the hills, is certainly of a fertilizing quality; and in either cold or hot weather, it moderates the temperature of the soil. Clear spring water may also be used longer than the foul or muddy, being less apt to render the grass gritty and unwholesome; hence some give a preference to clean watered crops."

Several interesting experiments have been made by distinguished philosophers, showing the effects of pure water upon vegetation.

"Mr. Boyle dried in an oven, a proper quantity of earth proper for vegetation, and after carefully weighing it, planted in it the seed of a gourd. He watered it with pure rain water, and it produced a plant which weighed fourteen pounds, though the earth producing it had suffered no sensible dimunition."

"A willow tree was planted by Van Helmont, in a vessel containing a thousand pounds of earth This plant was watered with distilled water; and the vessel was so covered as to exclude all solid matter. At the end of five years, upon taking out the plant, he found it had increased in weight 119 pounds, though the earth had lost only two ounces of its original weight."

There is another theory as to the action of simple water when used for irrigaton, which I will state. It is believed by some that all plants excrete certain matters from their roots which are hurtful to other plants of the same kind; that the cultivated grasses, being in time affected by their own excretions, do not continue permanently healthy in the same site, and therefore mosses and other inferior plants, spring up and extirpate them; that the water of irrigation, in its descent through the soil and subsoil, washes away this excrementitious matter from the roots of the grasses, and carries it off in solution; and that hence, in a good degree, the healthfulness and verdure of irrigated meadows.

After taking a good look at Col. Lincoln's irrigation, I accompanied him down the river into Rhode Island, to view the watered meadows which there so frequently occur. Some of the meadows preserve their original surface, and the ditches are laid out, and the water distributed, in a way precisely like that practiced by Col. L. Other meadows have been graduated by the plow and scraper, so as to present a surface best adapted to systematic irrigation. A mound of earth is raised, extending through the centre of the meadow in its entire length, and a carrier ditch, starting from the dam in the stream

enters this mound, and passes the water through the interval. The land on each side of the main carrier is laid out in beds of forty feet in width, at right angles, lengthwise, with the main carrier. The beds are made quite crowning in the centre, by frequently back furrowing the soil with the plow. Sectional ditches cut through the centre or most crowning part of these beds, take the water from the main ditch, and pass it the entire length of the beds. Frequent little openings are made in the top of the sides of these sectional carriers, through which the water flows, and then it spreads each way from the ditch, over the entire surface of the beds, passing into the dead furrows, when used profusely, and by them it is carried to a main trench to be conducted to land on a lower level, or else back into the river. Flumes and gates are placed in the main carrier at suitable intervals, and also at the mouth of the side carriers, so that the water can be changed from one section to another, as desired.

It struck me, upon viewing these graduated meadows, that they were in the long run, of a cheaper construction than those where the surface is left in its natural state. Once done, they are right for all time, the irrigation is easier managed, the water more perfectly distributed and drained off, and its effects, in consequence, are more beneficial.

I should remark that all the irrigated fields which I saw in my recent journey are invariably of a light dry sandy soil, with an open subsoil. It is found, however, in practice elsewhere, that almost all soils are benefitted by irrigation, if water does not stagnate for want of proper drainage.

Sinclair remarks that "irrigation is not restricted to any particular description of soil. Land naturally wet may be greatly improved by it, when accompanied by drainage, and it is equally beneficial to that which is dry. Rich loams produce the greatest crops, even though waters be not of the first quality. Peat bogs, when properly drained, will likewise yield good crops. Irrigating adhesive clays is expensive, and the benefits from it do not so soon appear; but it is evident, from a meadow near Longleat, that even this sort of land may, by good management, be thus rendered more fertile; and it is well known that some of the best meadows in Gloucestershire, and at Woburn, are upon a clayey substratum. The most suitable soils, however, are those of a sandy or gravelly nature; more especially when they can be irrigated by muddy streams, the sediment of which corrects their excessive openness. Indeed, by means of the warm and rich waters of a low, fertile and populous district, impregnated with mud, and full of animal and vegetable manures, almost any soil may be converted into a rich meadow."

Finally, the theory of the advantages of irrigation is thus summarily stated by Stephens, in his *Book of the Farm*. "*Could the hand of man*," he remarks, "distribute manure around the roots and stems of grass as minutely and as incessantly as turbid water; could it place a covering of woolen texture upon each blade and around each stem of grass, as completely as water can embrace each plant and keep it warm; could it water the grass as quietly and constantly as the slow current of irrigation; and could it wash away hurtful matter from the soil as delicately from the fibres of the roots of grass as irrigating water, there would be no need of irrigation; the husbandman could then command at will verdant pasturage for his flocks and herds, throughout the year, and in the driest season. *His mechanical* agency would be as effective as irrigation; but constituted as the relative state of things at present are between man and the action of physical laws, he employs irrigation as an instrument of his will, and induces Nature to assist him in maintaining his live stock by an application of her peculiar mode of acting, under his own guidance, but in which she undoubtedly displays her superiority over him, both in perseverance and dexterity."

I have prolonged my article to a great length; but believing that the subject of irrigation is not very generally understood, and that the art is much less practiced than it should be where so many excellent natural facilities for it exist, I have thought it advisable to be at considerable pains in citing authorities sufficiently to explain its principles, and turn attention to its practice. F. HOLBROOK.
Brattlboro', Vt., April 30, 1850.

The Horticultural Department.

CONDUCTED BY J. J. THOMAS.

Pear-Tree Blight.

John Randolph once remarked to his physician, "in the multitude of counsellors there is *confusion*," which is true when hasty and partial opinions are given. This is strongly illustrated by the discussions on the Pear-tree Blight.

"It is always caused by the freezing of winter," says one. "It is always produced by the burning heat of summer," says another. "It is owing to succulent growth, produced by injudicious cultivation," asserts a third; "it comes on like a pestilence or the potato rot, uncontrolled and unaverted by any skill," responds a fourth. Some have discovered that it is caused by an insect girdling the interior bark; others, that it results from the poisonous sting of an insect in the branches. Many maintain that particular varieties only are strongly liable to this disaster, and many more, that it attacks all sorts alike.

In addition to previously advanced opinions, we have received a communication from E. J. GENET, of Greenbush, N. Y., in which he confidently advances the belief that he has discovered the true cause; but the length of his communication, and the very narrow limits of the Horticultural Department of this paper, preclude its publication entire. We can furnish only an abstract of his theory and observations. At or a little before mid-summer, in the absence of dew for several nights, he observed liquid drops falling from a pear tree, which were subsequently found to proceed from minute aphides thickly covering the shoots or branches, and which had at first escaped notice from the identity of their color with that of the pear bark. The varnish which these insects exude, is regarded as a poison, absorbed by the pores of the bark, and preventing also the natural perspiration. These insects were observed to continue for about ten days, when they disappeared. They are doubtless worthy the attention of fruit growers, and may under certain circumstances produce the death of the tree or branches; but it would be deciding from too limited data to say that this is the usual or universal cause. Observations must be made with great judgment and accuracy through all parts of the country,—through a long series of years,—through all the variations of seasons,—under all modes of cultivation,—in all varieties of soil,—and in various latitudes and climates, to enable any one to overthrow all previous opinions, and to establish a single theory applicable alike to all cases. But it is always interesting and

useful to receive and record all the observations which may be made, relative to this formidable malady.

The following remarks of our correspondent, relative to the *periodical appearance* of the fire-blight, will be new to our readers, but we fear the rule will be regarded by some as established as much by its exceptions as by direct evidence:—

"The same disorder prevailed among the apple, pear, and quince trees, on the banks of the Hudson in 1780, and continued its ravages until 1793. Twenty-two years after, (1802,) it again made its appearance, and continued its attacks for 4 or 5 years. Again 22 years elapsed, and in 1824 the same disorder prevailed, and lasted 4 years;—and in 1846 we were once more sufferers from the same cause—our pear trees are still prostrated by its fatal attacks. This disease has been called by some "fire blight"—it has been attributed to a "coup de soliel"—one writer says it is produced by the *aphis lanata*, a small insect covered by a fine white wool;—the insect which came under my observation, is very different in every characteristic—so small as to escape notice in the first stage; and so similar to a *fly* at maturity as to mislead an inattentive observer."

Experiments in Raising Seedling Peaches.

The cultivation of the peach having engaged some of my attention, I collected all the fine sorts I could get; still for a while I had no good ripe peaches. Seven years ago, I went to Mr. Conklin's extensive peach orchard about the 20th of September, and bought two bushels on purpose to get the seeds. We sought the very best we could find; his early peaches were nearly gone; I took the last on the trees. *That* brought the ripening of them to the period I picked the peaches off, 20 days later. The Columbia was just beginning to ripen; I got the first ripe. That brought them two weeks earlier than the original. I planted the stones in rows, like planting potatoes, only covered shallow, following nature as near as I could. All brought the same sort in color and appearance. The result is, I have the Morris White through the season; the Columbia and Early York also, so that the whole space is now filled with the same species from last of August to 20th October, and any farmer, if he has one superior peach tree, can raise seedlings from it, and change to early and late to last the whole season. But plant the stones when fresh, if you expect to raise a good tree, for if they become dry, you will get a poor peach something resembling the original, but worthless. My seedlings, out of about 500 trees, which I planted seven years ago, contain only about four trees that are not as good, and many much better than the original. THOS. CRAIGHEAD, JR. *Whitehill, Cumberland Co., Pa., March.*

The importance of raising new varieties which shall be severally better adapted to the various and widely differing localities of our broad territory, than existing sorts, is becoming strongly felt by the cultivators of fruit. Experiments therefore, like the preceding, are of much interest and value, and our correspondent appears to have been unusually successful in the excellence of his results.

The opinion is by no means uncommon, that by planting apple seeds and peach stones *in the fruit*, or perfectly fresh, the seedling will very nearly resemble the original. This result can be confidently asserted only after repeated experiments in both ways side by side. Whether this has any influence whatever, is not perhaps as yet established. It is probable that the peculiar character of the seedling is chiefly if not wholly stamped upon the seed at the time of the impregnation of the ovule by the floating pollen; after causes may modify the result, but if so, in but small degree. At any rate, we do not find any modifying effect by freshness or age, in any of the common seeds sown by the farmer, nor any thing of the kind in the cucumber, melon, and squash. ED.

The Peach Crop.

Throughout Western New-York, there is a most promising appearance of an abundant crop of peaches. The trees are loaded with blossoms. In a large portion of the northern States, appearances are equally favorable. Northern Ohio will doubtless afford an abundant supply, but in the central portions of that State the crop is thin, although in many localities a fair product will be obtained. It sometimes occurs that the crop is destroyed or injured late in spring, or after the present period, but such occurrences are unusual. We must not, however, be too confident in advance, as it is better that our hopes should be exceeded than disappointed.

Sweet and Sour Apple.

I have observed several remarks on the Sweet and Sour apple in *The Cultivator*. I am in possession of a few facts which I have never seen published. The apple that I am acquainted with has been growing in what was formerly my father's orchard ever since my recollection; there are now but three trees living; they do not mix as well as formerly. On 2 of the trees I have not observed any except sour ones for two or three years; on the other tree, they still mix pretty well, though they are mostly all sweet or all sour, growing promiscuously. The sour apple is a perfect Rhode Island Greening, consequently a winter apple; the sweet is a fall apple, about half the size of the Greening, which causes the mixed apples to grow in ridges. The sweet apple is an agreeable, pleasant apple. I have never seen the kind any where else. The wood of the tree is curly. BENJ. MACOMBER. *Grand Isle, Vt.*

The above described variety has been considerably cultivated in various parts of the Northern States. It is a very singular peculiarity of the fruit, that certain portions, and often the whole apple, by a sort of diseased or imperfect growth, fails to develop the acid qualities of the juice. This imperfect growth is shown by the smaller size of the sweeter portions, and by its whitish or blanched color. A similar mixture of imperfect and healthy vegetable growth may be seen in the leaves of the *ribbon grass;* and the tendency to sweetness or insipidity in blanched substances is shown in celery and sea-kale, and in potatoes kept excluded from the light.

It is a very common notion that this variety was originally produced by cutting through the centre, the buds of a sweet and sour apple, and joining the halves of each at the time of budding. But such a result is a physical impossibility. For in common budding and grafting, the union always takes place by the granulations of the newly forming wood; a bud consists of a great number of minute and concentrically folded leaves, and all these edges cannot be made to coincide, much less to adhere together. If it were possible to cut directly through the vital point of the bud without killing it, and the two parts could be made to adhere; then, as in every other instance of union between two dissimilar varieties, each part would maintain its own identity.

When a sweet tree is grafted with a sour fruit, all the parts above the graft will bear sour apples; and all parts below, if branches are allowed to shoot out, will bear sweet apples. In the same way, if it were possible to make the two parts of a bud adhere, which is wholly improbable, then one side of the resulting tree would bear sweet apples, and the other sour apples, each sort being perfectly distinct. The Sweet-and-Sour apple is evidently a distinct variety, produced from seed, resembling the Rhode Island Greening in flavor, but differing in the growth of the tree. We have heard a great many persons assert that this variety was certainly produced by the two halves of the buds; but we have never been able to find the man who had performed the operation or seen it done. ED.

Influence of Grafting on Varieties.

"Is it true that the straight upright shoots of an apple tree set as grafts, will produce straighter trees than the lower and curving side shoots? and that the trees from grafts cut from young unbearing trees will be longer in coming into bearing?" C. T.

It is a common opinion that a difference is produced in the new tree by the part of the tree from which the grafts are cut. Experiments, however, made under the observation of the writer, do not favor this opinion, as no difference could be observed in the results produced. Cultivators sometimes arrive at erroneous conclusions by reasoning by false analogy. The improvement in the Indian corn and other crops, by successive selections of the seed, has induced some to think that similar changes may be made by successive selections of grafts. But where seed is planted, a new individual or new variety is produced at each germination; while grafting or budding is only a perpetuation of the *same* individual or variety. It may indeed be modified for the time being, by external and constantly acting causes, but its nature cannot thus be permanently changed. The quality of a pear is often greatly changed by grafting it on the thorn, apple, or quince; but it again resumes its former character, when grafted back to its original kind of stock. A certain variety of the apple may be changed in quality and productiveness, by being transplanted into a different soil; but trees propagated from the latter and set back into the former soil, will not retain any of the change. No permanent influence appears to be wrought upon the variety

To make Peach and other trees bear Young.

S. W. COLE says, "To induce early bearing, particularly where trees are luxuriant and barren, clip off the extremities of the branches in July, about one-third of the new growth; this will produce blossom buds the latter part of summer, for a crop the next season. We have found this very successful." A. J. DOWNING says, "If you wish to bring fruit trees into bearing at an early age, pinch off the shoots the first of July, and again at the end of six weeks."

Soap-Suds for the Grape.

A. J. DOWNING says "I have seen an Isabella grape produce 3,000 fine clusters of well ripened fruit in a single season, by the liberal use of manure and soap-suds from the weekly wash."

The effect of soap-suds on other plants is sometimes surprising. A cypress vine, which had remained stationary for a fortnight when about two inches high, immediately commenced growing after a good watering with soap-suds, and grew about 6 inches the first five days. The peach is much benefitted by soap-suds.

Peaches and the Curculio.

The following extracts from a letter of a distinguished amateur cultivator, present some interesting facts, relative to the liability of different peaches to the attacks of the curculio:—

Serrate Early York—"This is the best peach of its season, ripening with me, 3 to 5 days after the Early Tillotson—it is not quite so rich a peach as the Tillotson, but more hardy—a good bearer, and what is better than all, the curculio does not touch it—while they will, literally, eat up the Tillotson, stone and all!"

Large Early York—"The very best, out of 25 kinds, that I have growing—the tree is hardy, a fine grower, a great bearer, and the fruit is exempt from the curculio."

"How is it, that the curculio will work at a peach quite downy, when those with smooth skins, on an adjoining tree, will not be attacked at all? The Large Early York is quite a smooth-skinned peach; Hills' Chili, standing next to it, carries as much wool as a sheep on its back—still the latter suffers dreadfully from their attacks, while the former is not touched at all." D. T. MOSELEY. *Skaneateles, N. Y., April*, 1850

The Tree Box—*(Buxus sempervirens.)*

This beautiful evergreen is quite hardy at this place—one and a half miles east of the Cayuga Lake—though I should be apprehensive of injury, where the thermometer at any time in winter, indicated twelve or fifteen degrees below zero. I have one about 8 feet high, and very bushy. One spring, the leaves on shoots of the last year, had assumed a yellowish cast, but they soon recovered their color, and there is not a dead twig on the whole *tree*.

Loudon in his Encyclopædia of Plants, enumerates three species of *Buxus*, all natives of the Eastern world. Speaking of *this* kind, he says, it is a native of most parts of Europe from Britain southwards, and is very abundant in different parts of France and Switzerland. It abounds in many countries of Asia, as about Mount Caucasus, in Persia, China, and *America*." The last name however, is probably a slip of the pen, as it is not known to be indigenous to this continent.

The box grows well under the shade and drip of trees. Like the Yew, it bears clipping; and sometimes it is made to assume very fanciful forms. Such objects as novelties indeed, may interest us for the moment, but a correct taste will be more charmed with the wild luxuriance of nature. *D. T. Greatfield, near Aurora, N. Y., 4mo.*, 1850.

Scions for Budding.

The wood of rose cuttings should be *well matured*, especially if they are to be sent great distances by Express, or to be kept some days before using. When detained on the way—and small parcels are sometimes overlooked—the most succulent, or least ripened wood, always suffers the most. Two years ago, I had 56 kinds of rose cuttings sent me from Virginia; but they were kept back by some unworthy agent. longer than the time required from Liverpool to New-York, and every one perished, though the most succulent were the most decayed. Except where the buds are set with very little delay, *no sci*

on less mature than a twig that has flowered, should be chosen. D. T.

Leaf-blight in the Plum.

Accident often teaches valuable lessons to the observing. The following interesting fact is mentioned by F. K. PHOENIX, in the *Prairie Farmer:*—"I called on Mr. Truesdell of Elgin. The leaf-blight had troubled the plum trees last year for the first time. On one spot he showed me, they seemed wonderfully vigorous and healthy, while all about them were more or less stinted with the blight. On inquiry I learned that in that place there was formerly a cellar which had been filled up, and in the great depth of the soil, the roots had sustained themselves against the blight."

Expeditious Budding.

The same writer says, "The Messrs. Overmans (of Canton, Ill.) are the greatest "live" budders I ever saw, or I may say, ever heard of,—the two brothers having set, as I learned, 3250 *buds in one day!* The buds and stocks, however, were previously prepared." This was very good work, but there is a "*live budder*" now in Western New-York, who set about half that number, or equal to one of those individuals, in a day, and prepared his own buds; and yet, budding must be a great deal easier in Central Illinois where trees grow so rapidly, than here, for our friend Phoenix says in the same article, "With apple trees it did not seem as if a bud could fail,—no matter whether the stocks were large or small, or the work nicely or coarsely done. In fact, after investigating the matter pretty closely, I became almost satisfied that it was enough barely *to strip off a bud and fling it at a stock, to have it take!!*"

As a proof of the wonderful rapidity of the growth of apple trees in that region, it is stated that a very irregularly planted orchard was observed on one nurseryman's grounds, and on inquiring the cause why they were planted in such disorder, it appeared that these trees were what they called *culls*, which were to be cleared off a *year or two* before, but had been neglected by the owner. Thus left, they had actually run away from him, having become orchard trees! Buds too, will make a good growth the same season they are set. No wonder that nurserymen there can afford to sell all kinds of trees at *six cents* a-piece, as we have seen advertised.

The Peach Worm.

Our readers will bear in mind, we hope, that all peach trees suffering from attacks of the peach worm, should be thoroughly examined and cleared of these intruders, before the end of the present month. The exudation of gum at the surface of the ground, mixed with the pulverised bark, is a sure indication of their presence. The mode of dislodging them is well described by a certain distinguished horticulturist in Downing's Magazine, under the incog. of "OLD DIGGER"—

"You can do this good turn for a peach tree in five minutes, by lifting the soil around it two or three inches deep, laying bare the stem just between wind and water, as the old sailors say. If all looks clean and smooth there, very well; replace the soil again. If, on the other hand, you see *gum*, then look out for the enemy. Scratch a moment with your knife where the gum oozes out, and you will get on his trail; cut into the bark till you find him—in the shape of a white grub, three-quarters of an inch long—and when found, 'make no note of it,' but settle his accounts as rapidly as you can.

"This grub comes from an egg laid in the bark, in summer, by the winged insect. Unless the creature is wonderfully abundant, it contents itself with looking about for the tender bark at the surface of the ground. On this account, it is a good plan to outwit the rascal by heaping up a little cone or pile of wood ashes, tan or sand, say six inches high, around the trunk. The sole object of this is to guard the soft place in the bark at the neck of the tree. On this account you must clear away the pile every fall, so as to let the bark harden again. If you do not, but keep it there winter and summer, you will find that it does no more good than blowing against the wind—for the very plain reason that the bark becomes tender at the top of the pile, instead of the surface of the ground, as before."

The same eminent writer gives us the results of an experiment in treating these little fellows with hot water; which however, for general use, will not be found quite so convenient for the worm, as the knife:—

"I have satisfied myself by experiment, (though I am sorry I have not yet had time to get up the *theory*,) that a good dose of hot water is a means of bringing-to many a peach tree just about giving up the ghost. It seems to rouse the vital powers; and if there is life enough left, a good scalding at the neck seems to produce a reaction that is at times quite wonderful.

"Three years ago I had two trees, a peach and a favorite apricot, that had been failing for a couple of seasons—often thought before that very serviceable trees. They had been rather badly treated by the worm, to be sure, but that had been attended to in time, and the roots appeared to be in very fair condition. Still, the trees dwindled, looked sickly, and bore little or no fruit. As a desperate remedy, I resolved on a trial of hot water. I removed the soil directly round the neck of the tree, making a basin three inches deep and twenty inches across. Into this I poured twelve gallons of boiling water.

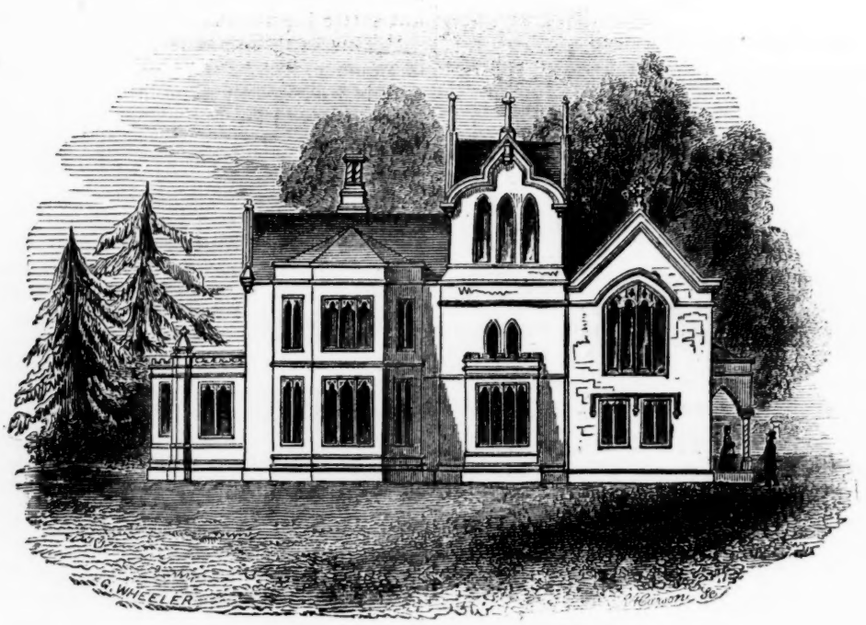
"To my great satisfaction the trees, instead of dying, immediately pushed out vigorous shoots, took a healthy appearance, and made a fine growth of wood, and have since borne two crops of delicious fruit. I experimented last year, again, with equal success, and now am ready, like old Dr. SANGRADO, to prescribe *hot water* in all desperate cases."

PROFITS OF HIGH CULTURE.—At one of the Boston Agricultural Meetings, George Pierce, of West Cambridge "advocated the high culture of fruit trees, and raising no crops among them after they were large. From four apple trees which he set in 1839, he gathered last year, (10 years) twenty-nine barrels of choice fruit, twenty barrels of which sold for $100. He sold $997 worth of fruit, the past season, from eight acres of land."

GARDENS IN FRANCE.—A writer in the *Revue Horticole* says there are 600,000 hectares (over 1,000,000 acres) of gardens and orchards in France, giving employment to about 2,500,000 persons. A very large proportion of these are undoubtedly market gardens.

☞ What maintains one vice will bring up two children.

The master's eyes will do more work than both his hands.



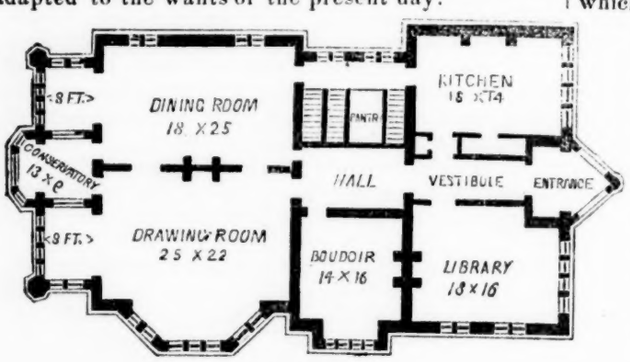
VILLA IN THE TUDOR STYLE.

Rural Architecture.

Design for a Villa.

The accompanying designs were originally furnished for the *Horticulturist*, by Mr. G. WHEELER, architect, Hartford, Ct., and from his explanation of the plan, we take the following:

This design is that of a country residence, suited to the demands of a family of taste and wealth, and is made in the Tudor Gothic style of architecture, adapted to the wants of the present day.



Principal Floor.

The disposition of the plan provides for a large dining and drawing-room, which communicate with each other, and also, by means of glass doors in the side of the rooms, with a conservatory or plant cabinet; an arrangement which would be found very beautiful in effect, and convenient for many purposes.

There is next to the drawing-room, and communicating with it, a boudoir, or ladies' room; and the dining, drawing, and this latter room opening *en suite;* the space capable of being thrown open, on occasion of company, would be found very liberal. Next to the boudoir is the library, a large well lighted, and handsome room. All of these rooms, with the exception of the library, are fourteen feet high, and large in proportion.

A kitchen, large staircase and entrance halls, pantry, &c., and back staircase, complete the accommodations on this floor.

Entrance is gained to the house by means of an angular porch, consisting of a single pillar, from which spring two arches, stopping against the wall of the house, and resting on corbels on either side of the spacious entrance doorway. This porch might, if desired, be made very much larger, so as to admit of a carriage driving through, and permitting visitors to enter under cover.

Over the library and kitchen is a large room, which it is intended, in the present instance, should be used either as a private chapel or large library; but if such an arrangement is not desirable, the room could be divided into three chambers, or otherwise distributed as may be required. The boudoir forms the lower story of a species of tower, which is carried above the roof.

The large angular bay of the drawing-room is also extended to the room over, which room would thus make a very spacious and desirable chamber.

The style of the house is one that would be peculiarly adapted to those localities where the scenery was rather sylvan than wild, and on an undulating lawn, stretching away to a broad river or lake, and backed by tree clad hills, would look very well.

The material might either be entirely stone, or brick with stone dressings; the latter being a frequent and very appropriate manner of building in this style.

The windows should be glazed in a manner accordant with the spirit of the design, and the interior of the rooms protected from the heat of the sun by inside shutter blinds, made to slide into the walls, whilst there might be in the drawing and dining-rooms, sliding doors, glazed or otherwise, which could be made to entirely shut off the bays, either to contract the size of the rooms in cold weather, or to shade the rooms from the sun in the middle of the day during the summer.

The Reviewer.

Poultry and Poultry Books.

DOMESTIC FOWL: Their Natural History, Breeding, Rearing, Feeding, and General Management; by H. D. RICHARDSON. Third edition. Dublin, 1849.

THE AMERICAN FOWL-BREEDER: Containing full information on Breeding, Rearing and Management of Poultry; also instructions concerning the choice of Pure Stock, Crossing, Caponising, &c., with engravings; by an ASSOCIATION OF PRACTICAL BREEDERS. Boston, 1850.

THE NEW-ENGLAND POULTRY BREEDER: Being a brief History of Domestic Fowls, and containing full directions for their Rearing and Management; illustrated with twenty-five correct Engravings; by a PRACTICAL POULTERER Boston, 1850.

EDS. CULTIVATOR—The rearing and management of poultry, is a business of more importance, in a commercial view, than would be supposed without particular examination. According to the census of 1840, the value of poultry in the United States, was $12,176,170. The amount of sales of poultry in the city of Boston, for 1848, is computed at one million of dollars. The annual sales in the city of New-York, probably amount to a still larger sum, and those of other cities and towns to equal sums in proportion to their population. The statistical returns of various European countries, represent the interest as possessing a corresponding value there.

I do not imagine, however, that the great interest which has lately been manifested in the rearing of poultry, has arisen wholly from a sudden perception of its relative consequence among the productions of the country, or from an impression that the pursuit of the business is generally attended with extraordinary profits. Whatever may have been the influence of these ideas, I am inclined to think that the desire of obtaining new or rare varieties—either on account of their supposed superiority, or their novelty—has been a greater cause of the attention now devoted to the subject. Hence, a leading motive in the publication of most of the new works on poultry, has been to describe varieties represented to have been hitherto uncommon.

In treatises on animals, it is obviously proper that the peculiar characteristics of species and varieties should be given; but they should be given with correctness, and in their classification, each should be placed in its appropriate position. It is to be regretted that some of the descriptions contained in the works referred to, are calculated to propagate error and create confusion, and that they betray an ignorance or disregard of the most important principles in which the subject is involved.

I do not propose to enter into a detailed criticism of all the poultry books which have lately been issued, but with your permission, will notice some portion of the contents of those under the above titles, and on another occasion, may ask space for noticing others.

Mr. Richardson's book, has not, probably, had a very large circulation in this country; but as it has been frequently referred to as authority by other writers, and has constituted the main body of at least *one* of the late American poultry books, it deserves some notice here.

Mr. R. arranges the breeds of domestic fowls under twenty-five different heads. He begins with the Malay—a stock which derives its name from having been brought from Malay, or Malacca, the southern peninsula of Asia, of which, and the neighboring region, it is undoubtedly a native. The second variety is the "Java fowl." This name, however, the author thinks is wrongly applied, and regards the variety as a "cross between the Malay and Dorking or Spanish fowl."

That different breeds of fowls have been brought from the island of Java, is a well known fact, but I have seen none that indicate any such "cross" as is here spoken of, though there are various home-bred mongrels under the name of Javas. But the large fowl generally known here as *the* Java fowl is evidently but a branch of the Malay. Hence Martin—decidedly the most systematic and intelligent writer I have met with on this subject—describes the Great Malay, Cochin Chinese, or Kulm Fowl, (*Gallus giganteus*,) as "*a native of Java, Sumatra, and perhaps the Malay peninsula.*"*

* Poultry: by W. C. L. Martin, late one of the officers of the Zoological Society of London. 1848.

Having put down the Malay and Java as the two first varieties, Mr. Richardson goes on with the Shakebag as the third, the Spanish as the fourth, the Columbian as the fifth, the Dorking as the sixth, the Spangled Hamburgh as the seventh, the Polish as the eighth, the Dutch Every-day-layer as the ninth, the Barbary fowl as the tenth, and the *Cochin-China* as the eleventh variety.

The consistency of an arrangement which thus places the Cochin-China fowl the *tenth remove* from the Malay, is not easily perceived. Aside from the hyperbole of his own account, it is obvious that there is no material distinction between them. Mr. Richardson claims to draw his description of the Cochin China fowl, from specimens in Her Majesty Queen Victoria's aviary. Mr. Martin, speaking of the same fowls, says he is aware that "some regard these as distinct from the *Gallus giganteus*, but we look upon them as a mere domestic variety of the Malay gigantic fowl."

But Mr. Richardson has doubtless heard the adage that "the king's chaff is better than other men's corn." He says—"This variety of fowl [the Cochin-China] *so far surpasses both in size and power, all that we have yet seen in the shape of poultry*(!) as to have led many persons not conversant with zoology, on first viewing them, to refer them to the family of Bustards." But notwithstanding their wonderful size and other characteristics, he admits that they are "genuine poultry." One of the most "striking" of the "distinctive" traits which he represents as belonging to these fowls, is a peculiar structure of the wing, "so that the posterior half can, at pleasure, be doubled up and brought forward between the anterior half and the body. The birds," he continues, "can do this at pleasure, and the appearance the manœuvre imparts to their form, has procured for them the title of 'ostrich fowl.'"

Many persons will recollect that the "title of ostrich fowl," was given to various specimens of the Malay, long before the introduction of the Queen's fowls; and those who have kept them know that the doubling of the wing, which Mr. Richardson magnifies into a strange anatomical peculiarity of the Cochin-Chinas, belongs, more or less, to the whole tribe. There is no mystery about it. The chicks are often thinly feathered, and in many instances remain quite naked until several months old. The feathers of the tail and wings are shorter than in ordinary fowls—in some individuals, indeed, are scarcely developed at all—and the whole plumage has a more downy character. From the absence of the wing-braces, or pinion feathers, there is nothing to prevent the close folding of the limb, as in newly hatched birds.

But the *fecundity* of the Queen's Cochin-China fowls, according to Mr. Richardson, is still more astonishing than their size and the structure of their wings. He says—"They are very prolific, *frequently laying two, and occasionally* THREE eggs on *the same day, and within a few moments of each other!*" Verily, this is only equalled by "Old Grimes' hen," which is *poetically* described—(I cannot relate the story in verse)—as having laid *two* eggs every day, and *three* on Sunday.

But Mr. Richardson's encomiums of the Queen's Cochin-China fowls do not end here. In a communication on the varieties of fowls suited to the farm, published in the *Irish Agricultural and Industrial Journal*, 1848, after having described the principal qualities of these fowls, in language similar to that I have quoted from his book, he thus extols their *prowess*: "The cock is *game* to the last degree, capable of killing the most powerful game-cock in a few moments!" How *crest-fallen* must be the amateur breeders of the hitherto invincible game cock at this announcement! Why have we not already heard that the Earl of Derby has disposed of his aristocratic stock of game fowls, which he and his ancestors for several generations, have bred with such scrupulous care, and substituted in their place these valorous Cochin-Chinas? But Mr. Richardson is probably the only breeder who has discovered the superiority of these fowls as a *fighting stock*.

In describing the Bantam fowl, Mr. Richardson gives the specimens of the breed "kept by her Majesty, at the Home Park," a prominent place. He tells us that "they possess some peculiar traits of habit and disposition that we cannot overlook." The cocks possess the "strange propensity" of sucking the eggs laid by the hen, and their impulse to gratify this appetite is represented as so strong, that they will not only drive the hen from her nest to obtain the eggs, but "have even been known to attack her, tear open the *ovarium*, and devour the shell-less contents." But by the ingenuity of Her Majesty's keeper, this habit was finally broken up. He gave the cocks a marble egg to "fight with," preventing, at the same time, their access to the hens and to real eggs. This so thoroughly cured them in the course of a few weeks, that they made no further attempt at the "destruction either of the hen or of the actually *laid* egg."

But these Bantams exhibit another "strange propensity,"—"a passion for sucking each other's blood." They pulled out each other's feathers, and sometimes pecked each other naked. But the keeper overcame this propensity likewise. "That person observing that the birds were subject to great heat of the skin, and that its surface occasionally became hard and tightened, conceived that in such cases the hard roots of the feathers being drawn into a position more nearly at right angles with the body than at ordinary times, the skin and superficial muscles were thus subjected to an unusual degree of painful irritation; and it immediately occurred to him, that the disagreeable heat in question was simply a *provision of nature for the relief of the suffering birds*." He was, however, induced to make some application to the skin of the fowls—such as anointing with "pomatum," &c., and their plumage remained afterwards untouched.

Now in what is here described, as remarkable and peculiar propensities of these Bantams, is anything more discernable than is often noticed in ordinary fowls? Almost every one knows that when fowls are confined to small enclosures, (and sometimes when running at large,) they are liable to contract the habit of pulling out and swallowing each other's feathers. Generally one or two individuals of the flock, are made the special victims for the gratification of the morbid appetites of the others. Sometimes the fowls which are "pecked upon" are almost entirely denuded of feathers; but more frequently the plucking is confined to particular parts of the body—as the breast, or abdomen—and the habit is occasionally so inveterate, that the fowls do not stop with drawing the feathers merely, but break the skin, and tear out the crop, or the entrails. Should the oviarum in such cases, be torn out, it is very probable that its "shell-less contents" would be devoured.

When this feather-eating habit first makes its appearance in the poultry-yard, the mischief is often done by one or two of the flock. These should at once be sought out, and if they possess no special or extraordinary value, it is best to dispose of them

at once; or if this is not done, to confine them in separate places till they forget the habit. In this way, the trouble, if taken in time, may be easily got rid of, but if allowed to run on, it is difficult of eradication. As to medical treatment—"pomatum" is sometimes used to promote the growth of *hair* on *coxcombs*, and it might have a similar effect on *cock's feathers*. If any substance disagreeable to the taste of fowls were mixed with it, it might tend to preserve the subjects to which it was applied, from further molestation; but it is probable that *grease*, "by any other name," would do as well.

The "*American Fowl Breeder*" takes its illustrations and descriptions of varieties chiefly from Richardson, though it occasionally puts forth an idea not found in the original. It speaks of "the Java fowl" as if there were but one variety belonging to Java, and this, it says "resembles the Malay in shape," and also in "its character and qualities," but which is "supposed to be a cross of the Malay and the Dorking or Spanish breeds." This *supposition*, the authors of course derive from their prototype, as has been shown above; but another hypothesis is added, viz., "it is generally supposed that from this variety, the English game cock originated." In other words, the English game fowl originated with a variety resembling the Malay "in character and qualities," and *that* variety originated in a "cross between the Malay and Dorking or Spanish breeds!" Tell such stories to the marines—who else will believe them?

The Cochin-China fowl is described as a "*species*" which has been "very recently introduced into England," as a present to Queen Victoria. Following Richardson, it is said—"This fowl surpasses, both in size and power, all known descriptions of poultry," being "nearly allied to the Bustards." Whether geese, turkeys, &c., are considered "poultry," does not appear. The phenomenon of the hens laying three eggs a day, "and within a few moments of each other," is told in Richardson's language, though not credited.

To the Bantam fowl, the same strange propensities are attributed as mentioned by Richardson, and the description, with no intimation of its being copied, is given mostly in his language. We have the same story of their thirst for each other's blood, of their hankering after eggs, even while in the body of the hen—and the same account of the "marble egg," and other means resorted to for curing the habit, with the additional prescription, by way of *improvement*, of washing the fowls "with *hot* water" to "allay the irritation." If the water were sufficiently heated, it would undoubtedly produce this effect.

The "*New-England Poultry Breeder*," may, perhaps, be said to be a more *independent* work than some of its cotemporaries, though it can have but trifling claims to be considered a systematic (much less scientific) treatise. This "Practical Poulterer," as he styles himself, begins his enumeration of breeds, with the "Chittagong fowl," a "magnificent bird," he says, and of which he pretends to give a description from Richardson, and applies to it, verbatim, that writer's description of the Malay, adding that "a *species* [I make the italics] of this fowl is frequently called the 'Great Malay.'" Now the *fact* is, that Richardson, after having described the Malay, says—"This fowl is also frequently called the *Chittagong*." Many writers, as Mowbray, Dickson, and others, very properly use the terms Malay and Chittagong as synonymous—and they are usually applied to the same fowl. But the "Practical Poulterer" then goes on with the "*Grey* Chittagong," as the second breed. Then passing to the Cochin-China, the Shanghae, the "Plymouth Rock fowl," the Dorking, the Spanish, the Bolton Grey, the Black Poland, the Game, and the Bantam, he at length comes to what he calls the "Common Malay fowl." This variety he represents by a copy of the engraving of the hen given by Richardson as a representation of the Malay, and from the description of which, this "Practical Poulterer" takes the description of his Chittagong!

Of the Cochin-China fowl, Richardson's description is first given, to which is added an account of some of this "*species*," as they are called, imported by G. P. Burnham, of Roxbury, Mass. His next variety is the "Shanghae fowl." These and the Cochin-Chinas, it is said, are often confounded. And why should they not be? This writer himself says—"That the Cochin-China and the Shanghae fowl originate from the same country and stock, we have no question. They are very like each other, generally—and all the best specimens we have yet seen in America, resemble each other strongly." Yet he pretends to make a characteristic distinction between them, and that distinction is, merely, that the Cochin-Chinas are not feathered on the legs, and the Shanghaes are.

The humbuggery of this notion is apparent to every one who has had much experience with fowls of the Malay tribe, (*Gallus giganteus*)—whether under the name of Malay, Chittagong, Java, Cochin-China, China, Shanghae, &c.—all of which, especially when first brought from their native country, have more or less tendency to be feathered on the legs. Even those *brag* specimens of the Malay which this "Practical Poulterer" calls the "Grey Chittagong" are thus feathered. They are so represented in the cuts and so described. "The pullet," it is said, "is rather heavily feathered on the legs, the cockerel shows but few feathers below the thigh." The trait is generally less conspicuous after the fowls have been bred for several generations in Europe or in this country. This may result partly from acclimation, and partly from the general selection of such specimens for breeding as are most free from feathers on the legs—they being commonly regarded as a blemish.

There are various other things in these books which it might be well to notice, if sufficient space could with propriety be allowed in your pages; but the length to which these remarks have already been extended, obliges me to close. OBSERVER.

The Veterinary Department.

Inflammation of the Lungs in Horses.

The transportation of live-stock by railroads, has been latterly much adopted on the principal lines in this country. It is, in many cases, cheaper to convey animals in this way, besides avoiding the great loss of weight which takes place, especially in fat animals, when they are obliged to travel to market. The present season, many horses destined for sale in New-York and Boston, have been brought to Albany by Railroad from Western New-York. On reaching Albany, it has been common for them to tarry several days, in order to recruit and appear in the market in the best possible condition. Many of these horses, while stopping here, have been attacked with inflammation of the lungs, which in several cases has terminated fatally. The disease has sometimes been so violent and rapid in its prog ss

that death has ensued within twenty-four hours. We are informed that the frequent occurrence of this disease in horses brought by railroad, has been a discouragement to that mode of conveyance. Without pretending to a particular knowledge of the circumstances, we will venture to suggest that the primary cause of the disease is the confinement of the animals in a heated and vitiated atmosphere in the cars. Their sudden transfer to the open air, or to an atmosphere of much lower temperature, produces the effect so well described by Youatt. "The discharge from the skin is at once arrested, and the revulsion, or pernicious effect of the sudden stoppage of a natural evacuation, falls on the lungs, too much weakened and disposed to inflammation by heated air and poisonous fumes." The first difficulty is probably accelerated in many instances by overfeeding, and want of exercise.

As a prevention of the disease, the better accommodation of the horses in their railroad transit, should be the first object. The next should be to feed moderately, using constant care in regard to the protection of the animal from the effects of changes of temperature, giving daily exercise, with good grooming. Should the evacuations from the bowels indicate constipation, the administration of simple cathartics will be safe. A dose of Epsom or Glauber's salts—half a pound to a pound, according to the symptoms—may be given. But in a disease of so important a character, it will be safest, when it makes its appearance, to entrust the animal to the care of a skillful veterinarian.

Ringbone.

EDS. CULTIVATOR—In a preceding number of *The Cultivator*, I discover a number of communications on the subject of ringbone in horses. I have been in the habit for the last fifteen years, of operating on horses for this complaint, which has caused me to notice what kind of horses are most afflicted with it, and I find those that are the longest jointed are the most numerous subjects. Seldom do I see one on a French horse, and never, with but one exception, on a mule. Hence the careful necessity of attending to this particular point in breeding.

The causes of ringbone are numerous; such as standing on a hard floor, running in the pasture, leaping fences, and in horses of mature age, being put to heavy loads, &c., &c. These causes produce a leakage, and the sinova, or juice of the fetlock joint issues into a bladder or spongy substance at the back part of this joint, and it is from thence conveyed by two conductors down on each side nearly to the edge of the hoof, where it becomes ossified and gradually increases until it forms what is very justly called a ringbone.

I extract this spongy substance, or bladder, taking particular care at the same time to cut the conveyors off—thus stopping the escape of the sinova.

In answer to "W." in your March number, as it respects all operations not being equally as successful, I know of no reason why they should not be, provided they were skilfully done. I know of no cases where I have operated, but what have proved equally successful under similar or like circumstances. Where the complaint has been of long standing, and as a natural consequence, the hoof has become much contracted, of course the lameness will not be cured until the hoof arrives at its natural state. If the complaint occurs in a colt, and the operation is performed as soon as the bunches are perceptible, he never will be lame at all.

But I have known many instances where the operation did no good at all, and what is still worse, entirely ruined the animal. Hence the necessity of the operation being performed by one skilled in the art. I know much prejudice exists against this mode of treating the ringbone; but I know it will effect a cure if performed rightly, as many instances attest the fact. S. G. CONE. *Unadilla, March 15, 1850.*

The Farmer's Note-Book.

Jersey or Alderney Cattle.

EDS. CULTIVATOR—In your May number you say you are not aware that any person has imported the "Improved" Alderney cow, from Jersey. Col. Le Couteur, last year, did me the favor to select for me one of the best and highest grades of the pure Alderney breed. She certainly is a fine cow, and I would not sell her for two hundred dollars. I have also the pure Alderney stock, imported by my late friend N. Biddle, at a cost of two hundred dollars a head. My four year old bull I consider perfect. I have also, three of the pure Alderneys imported by Dr. Physick, of Germantown, with which I am as much pleased as with any of my stock, and presume I have as large a herd of Alderneys as any man in the country; and this I am satisfied with—that any one who can keep one cow, and wants good milk for the use of his family, ought to have an Alderney. R. L. COLT. *Paterson, N. J.*

We are glad to hear that Mr. COLT has introduced a cow of the improved Jersey or Alderney variety. We think it will prove a valuable dairy stock. At a meeting of the Council of the Royal Agricultural Society, in April last, Col. Le Couteur made some observations on these cattle, which are worthy of attention. He referred to the scale of points (see last No. of this paper,) for deciding the relative merits of animals. He said the system had worked well, and that during ten years he had been secretary to the Jersey Society, he had never known a case of absolute dissatisfaction. In reference to characteristics, he remarked that "the cows which had the inside of the ear tinged with a deep yellow color were invariably found to yield butter of a rich orange color, while those with ears of a lighter tint furnished butter of a correspondingly inferior quality, and of a paler hue. In the finest stock, too, the eye of the cow was soft and placid, while that of the bull was lively and full of fire. The 'action' of Jersey cattle also indicated not only their muscular power and their mode of employing it, but that general conformation and adaptation of parts which constituted excellence: a finely bred Jersey animal, Col. Le Couteur remarked, ought to walk off the ground like a race-horse."

In reference to the term Alderney, which has been applied to the cattle of the Channel Islands, he said the island of Alderney had belonged to his great-grandfather, who introduced into it great numbers of the Jersey cattle, but which, from the inferiority of the pasturage, soon deteriorated, and at the present time there was scarcely an animal in Alderney that he would think worth purchasing. He said many animals were passed off as of the true Jersey breed, such as those from Normandy and Brittany, some of which were of a black and black and white color, and very inferior to the genuine Jersey stock. The best cows of this breed, in the flush of feed in May and June, had given sixteen pounds of butter a week.

Mental Culture.

Eds. Cultivator—Time has been, when it was thought that mental cultivation in a farmer, would unfit him for the humble toils of husbandry; when it was thought unnecessary for *him* to cultivate those faculties, which alone distinguish him from the brute. And I blush for human nature, when I find many in the *present* age, who believe that intelligence is detrimental to the interests of the farmer! But, thank Heaven! I believe that these relics of a barbarous age—these mists, which during the long night of ignorance, have gathered about the human mind,—will vanish before the flood of light which is dawning upon mankind. Then will our hardy yeomanry appreciate their own strength; and then, but not till then, will others award them the respect which is their due.

Man, without mind, is lower in the scale of existence than any being which has animal life. Brutes are endowed by nature with instinct; which reason in man, renders unnecessary. But when man is destitute of reason—when the fire of intellect becomes extinct—*then* we can see how much the mind has to do in forming the man! But still there are thousands who *practically* say that mind is not necessary. Oh, what absurdity! As though there were nothing to be attained, nothing worth striving for, save a mere animal existence; to eat, sleep, then die and be forgotten.

The pleasure arising from the cultivation of our mental powers, would alone be a sufficient recompense for all our study and toil. Every faculty of our nature, when exercised in its legitimate sphere, is in itself, an inexhaustible source of enjoyment. Hence the greater the number of faculties called into action, the greater will be our means of enjoyment; hence those who cultivate only the physical powers, leaving the mind in a state of inactivity, will reap but a small portion of the happiness which they might have enjoyed, had they understood and followed the teachings of nature. And further, as every organ is strengthened by exercise, and as the pleasure derived from the action of any faculty depends upon its strength, and the facility with which it acts, so the more we cultivate our minds, the greater will be the happiness derived therefrom; and as the more we accomplish the more difficulties we overcome, the greater will be our strength; we shall thus fit ourselves for still nobler efforts, and still higher flights toward realms which science has not yet explored.

Considered in a moral point of view, the neglect of mental culture cannot appear otherwise than as the basest ingratitude. Few would treat with indifference the favors of a friend, yet how many treat the mind—the greatest gift of God, as though its only use were to minister to our animal passions! The fact that God has bestowed these faculties upon us, is a sufficient proof of our duty to cultivate them.

But the greatest complaint among farmers is, that they have no time to study. But what is the reason? Why cannot the farmer find time for mental improvement, as well as the mechanic? Alas! I fear that the chief reason will be found in the fact that it is not considered necessary; yes—knowledge is considered useless in those who form the foundation of civilized society! As well might we expect to rear a durable structure upon a foundation of *sand*, as to expect the fabric of society to rest securely upon the rotten foundation of ignorance. If knowledge is not necessary to the farmer, then certainly those who do nothing but consume the fruits of his toil, do not need it.

But a brighter day is dawning upon the human mind. The time will soon come when the farmer will possess and be content with

> "An elegant, sufficiency, content,
> Retirement, rural quiet, friendship, books,
> Ease and alternate labor, useful life,
> Progressive virtue and approving Heaven."

May Heaven speed the day when the light of truth shall illumine every mind with its heavenly radiance! Sylvanus. *East Weare, N. H.*

Shrinkage of Corn.

Eds. Cultivator—Knowing that a great difference of opinion exists among farmers as to the loss of corn by shrinkage or drying, from the time it is cribbed in the fall, till spring,—say the latter part of March, I determined to satisfy myself on this point,—at least so far as a single experiment could determine.

On the 23d of November last, the day on which we finished husking, I measured two bushels of ears in a standard bushel, as accurately as I could. I then weighed each bushel, and found the weights 43½ lbs. and 44 lbs, respectively. The number of ears, 58 in one and 60 in the other. I had one parcel shelled, and got 33¼ lbs. by weight, and half a bushel and half a peck by measure, and 10 lbs. of cobs. The corn was spread in a dry airy place, where it remained till a few days since, when it had lost just half a peck, or 20 per cent. by measure, and a fraction over 3 lbs. or 10 per cent. in weight.

This shows a difference of 10 per cent. between the loss by weight and measure. How is this difference to be accounted for? Is it owing to the minute division of the water in the corn, that while we find a loss in weight that should occupy a space less than three pints, there is an actual loss of eight pints in bulk? The cobs of this parcel were accidentally destroyed; so that I was prevented from ascertaining the loss on the cob.

The other bushel of ears was kept in a dry, airy place, and shelled a few days ago, and gave just half a bushel of corn, weighing thirty and a quarter pounds. The cobs of this parcel, weighed seven and a quarter pounds.

These are the facts, as gathered from my small experiment. The corn was a variety of the white, between the Gourd-seed and Flint—a mixed variety having from ten to twenty-six rows. The corn was in good condition for housing, at the time we finished husking. N. W. McCormick. *Independence, Cecil Co., Md., March* 25, 1850.

How is it?

Eds. Cultivator—If I read them right, some agricultural chemists maintain that manures are valuable as they contain nitrogen; others say their greatest value depends on their phosphates. Prof. Norton, in his article on "Neglected Manures," Cult. for March, says the value of bones depends upon both these substances. A question or two, if you please. Many farmers, perhaps the majority, in winter and spring throw the manure from their stables and cattle hovels 'out doors,' and leave it exposed to 'rain and shine,' till wanted for use. Now how is such manure injured the most;—by the escape of the ammonia into the air, or by the washing out of the phosphates and liquid parts, by the rain? It is generally known that manure is best to be kept under cover, but *why* it is so, is not so generally understood. But when kept under cover, care

must be taken, or it will heat and drive off the ammonia. What effect does this have on the value of the manure? A correspondent of *The Cultivator*, May, 1849, p. 139, says a neighbor of his spread his green manure over his yard that it might lay through the summer and *mull*. After becoming thoroughly *mulled*, would it be worth more than 20 per cent? Cannot some one enlighten the unscientific on this subject? W. L. EATON.

Stump Machines.

Agreeably to the request of a correspondent, we herewith give cuts and descriptions of two stump machines. Fig. 1 represents one that has been used extensively in Vermont and the northern part of this State. It may be made by any farmer, and can be operated with a good degree of efficiency and dispatch. The cost of the apparatus is about $100. It is said to have been invented by two brothers by the name of Manchester, of Burlington, Vt., in 1828. It is described as follows:

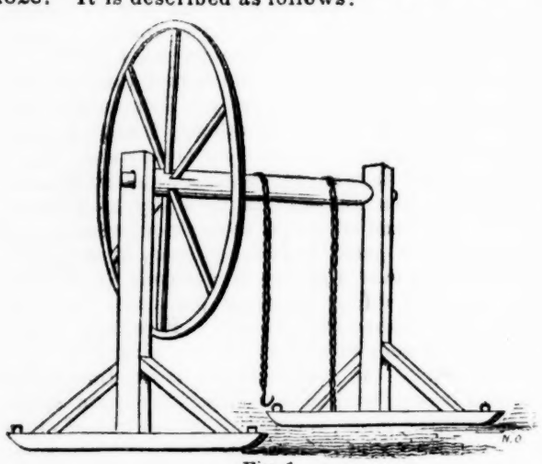


Fig. 1.

"It is simply the wheel and axle on a large scale. The uprights should be 11 feet high, 10 by 12 inches square, of hard wood. The sills 7 by 9 inches square, 14 feet long and turned up at the ends, sled runner fashion, to enable it to slide easily on the ground. Let the posts be firmly morticed into the sills, and well braced. The axle or shaft, should be white oak, ash, or maple; 18 inches in diameter, with the gudgeons 8 inches. It should be 20 feet long, and 2 pins should be driven into it, outside the posts, to keep them together. The wheel should be about 18 feet in diameter, with 8 spokes; 4 of which should go through the axle, and the other 4 set as deep as possible into the shaft without cutting away too much wood, for fear of weakening it. The spokes are to be white oak plank, 8 by 3 inches square. Let the felloes be sawed out of 4 inch plank, and planked by two courses of inch boards on the two sides, in such a manner as to "break joints," (as the phrase is,) with the first set; thus, and at the same time, to form a groove to keep the rope from slipping off. Then get two strong chains made of 1¼ inch iron, and 12 feet long each. Fasten one end of each by a strong staple to the axle, and on the other end of one have a hook, on the other a large link or ring. Then fasten one end of a 1¼ inch rope on the wheel, give it two or three turns around it, and your machine is complete. Now bring your two yoke of cattle, and one assistant; hitch them to the staples, (which should be in each end of each sill,) and drive where you like. Dig a hole under the main root of the stump, (on one side if possible,) and pass your chain under it. Hitch your cattle to the end of the rope, and they will draw any stump that ever grew in the ground."

Fig. 2 represents a very powerful stump machine, invented by R. HALL, of Owego, N. Y., which received the premium and silver medal of the New-York State Agricultural Society in 1846. The following extract from a description written by GEO. J. PUMPELLY, Esq., of Owego, will give a good idea of its operation.

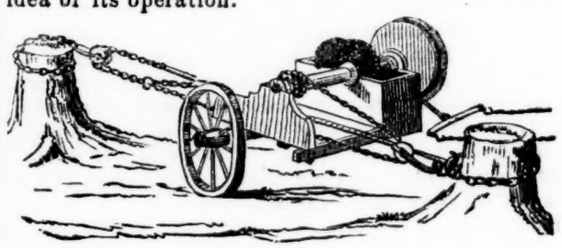


Fig. 2.

"The machine requires three men and a boy, with a small horse to work it to advantage. Its cost, with all the chains, levers, &c., is from $300 to $400.

"Upon some of our best lands in the southern counties, the Stump Machine must precede all agricultural implements but the axe. The expense is considerable, being from 15 to 25 cents per stump, but the ground is thereby thoroughly cleaned to any depth. The stumps are either made into fence or burnt; the plow and harrow do their work, the seed is sown, and the effect is like magic; the unsightly stumps are gone, and the whole field is like a garden.

"There are four or five different kinds of stump machines now in use in this county, and some of them work very well; but Hall's is the most powerful, most convenient in the application of power, and is least likely to get out of repair."

Exhibition of Works of Industry of all Nations in 1851.

The Commissioners having in charge the arrangements and management of this grand exhibition, have fixed on the first day of May, 1851, for its opening. They will be prepared to receive all articles intended for exhibition, at some place in London, to be hereafter named, on and after the first of January, 1851, and goods will be received till the first of March, after which none will be received. In the plan of the exhibition, the articles to be offered for prizes, are comprised under four general divisions, and the principles on which the prizes will be awarded, will be understood from the following extracts from a circular issued by the Commissioners:

"IN the department of RAW MATERIALS AND PRODUCE, prizes will be awarded upon a consideration of the value and importance of the article, and the superior excellence of the particular specimens exhibited; and in the case of prepared materials, coming under this head of the Exhibition, the juries will take into account the novelty and importance of the prepared product, and the superior skill and ingenuity manifested in the process of preparation

"In the department of MACHINERY, the prizes will be given with reference to novelty in the invention, superiority in the execution, increased efficiency, or increased economy, in the use of the article exhibited. The importance, in a social or other point of view, of the purposes to which the article is to be applied, will also be taken into consideration, as will also the amount of the difficulties overcome in bringing the invention to perfection.

"In the department of MANUFACTURES, those articles will be rewarded which fulfil in the highest degree the conditions specified in the sectional list already published, viz.:—Increased usefulness, such as permanency in dyes, improved forms and arrangements in articles of utility, &c. Superior quality, or superior skill in workmanship. New use of known materials. Use of new materials. New combinations of materials, as in metals and pottery. Beauty of design in formor color, or both, with reference to utility. Cheapness, relatively to excellence of production.

"In the department of SCULPTURE, MODELS, AND THE PLASTIC ART, the rewards will have reference to the beauty and originality of the specimens exhibited, to improvements in the processes of production, to the application of art to manufactures, and, in the case of models, to the interest attaching to the subject they represent."

All articles of foreign growth or manufacture, it is stated, must come under the charge and sanction of the "Central Authority of the country of which they are the produce;" and that "it will rest with the Central Authority in each country to decide upon the merits of the several articles presented for exhibition, and to take care that those which are sent are such as will fairly represent the industry of their fellow countrymen."

The Executive Committee of the N. Y. State Ag. Society, have requested the President of the United States to designate a Commission to take charge of such articles as may be sent from the different states. Information has been given that the space on the ground of the exhibition, allotted to this country, is 80,000 square feet, one half of which will be required for alleys, and the other half will be devoted to articles for exhibition. We shall give further particulars in regard to this exhibition, when we learn the action of the Executive of the General Government in relation to it.

Culture of Millet.

The culture of millet is chiefly recommended in this country for making hay. For this purpose, it is a good substitute for clover and the ordinary grasses. When, therefore, from any cause, a sufficiency of hay is not likely to be obtained from the latter sources, millet may be advantageously resorted to. It is a plant which will grow quite well on rather thin soils, and it grows so fast, that when it is up and well set, it is seldom much affected by drouth. In this latitude, it is commonly sown in June. Half a bushel of seed to the acre, is the usual quantity, sown broadcast and harrowed in. For the finest quality of hay, it is thought advisable to sow an additional quantity of three or four quarts of seed. The ordinary yield of crops may be put at from a ton to a ton and a half of hay to the acre.

It should be cut as soon as it is out of blossom; if it stands later, the stems are liable to become too hard to make the best of hay. In curing, it is best to put it in cocks when fairly wilted, letting it remain in this situation for twelve hours, in order that it may undergo a *sweating*, which improves the hay, both by the development of its saccharine qualities, and by doing away with its stiffness and harshness, making it soft and more agreeable to the animals.

There are several varieties of millet. That known as the German, is perhaps most common in this country. It grows, ordinarily, to the height of about three feet, with compact heads from six to nine inches in length, with yellow seed. There are some sub-varieties of this, as the white and purple seeded.

The Italian millet is larger than the preceding, reaching the height of four feet, in tolerable soil, and its leaves are correspondingly larger and thicker. The heads are sometimes a foot or more in length, are less compact than the German, being composed of several spikes, slightly branching from the main stem. It is said to derive its name from being cultivated in Italy, though its native habitat is India. It is claimed by some, that this variety will yield more seed than any other, and the seed is rather larger; but the stalk is coarser, and would probably be less relished by stock.

The seed or grain of various kinds of millet has sometimes been used, when ground into meal, for bread. The seed is also used in various European countries as a substitute for sago, for which it is considered excellent. It is also a valuable food for poultry—particularly for young chickens, which, from the smallness of the grain, can eat it readily, and it appears to be wholesome for them.

If the greatest amount of seed is desired from the crop, it is best to sow it in drills two to two and a-half feet apart—using a seed drill for the purpose. This admits of the use of a small harrow or cultivator between the rows, while the plants are small, which keeps out the weeds. The crop will ripen more uniformly in this way, than broadcast, which enables the farmer to cut it when there will be the least waste. The seed shatters out very easily when it is ripe, and when the crop ripens unequally, it cannot be cut without loss; because either a portion of it will be immature, or if left till it is all ripe, the seed of the earliest falls out. It should be closely watched, and cut in just about the same stage that it is proper to cut wheat—while the grain may be crushed between the fingers. It may be cut with a grain cradle, and when dry, bound and shocked like grain; but it should be threshed out as soon as practicable, on account of its being usually much attacked by birds, many kinds of which are very fond of the seed. In particular localities, they assail the crop in such numbers, from the time it is out of the "milk," till it is harvested and carried off the field, that it is no object to attempt to ripen it.

This crop is sometimes sown in drills when it is only intended for fodder, being cut and cured in bundles, as corn-stalks are cured. It is best to pass it through a cutting-machine, before feeding it to stock; indeed, all millet hay will be fed with less waste in this way, than if fed to animals without cutting.

There is another species of plant, (*Sorghum*,) often called millet, several varieties of which have been introduced and more or less cultivated in this country. It is also popularly called Egyptian corn. It is closely allied to the broom corn, the head being similar in structure, and the seed similar, except that in most varieties of the sorghum, the outer covering does not adhere, as in broom corn. The plant bears a strong resemblance while growing, to Indian corn. There is also some resemblance in the grain, and it is extensively used as food by many oriental nations, from which circumstance it is supposed to have been confounded by some writers with the American maize, or Indian corn. A variety under the name of "African purple millet," was some years since introduced, and recommended for cultivation as a soiling crop. But we believe that this, as well as other varieties, have failed to answer the recommendations for this purpose,—at least, they possess no advantages over Indian corn, and they are now cultivated here merely as a ouriosity.

Notices of Publications.

ELEMENTS OF SCIENTIFIC AGRICULTURE, or the connection between Science and the art of Practical Farming: a Prize Essay of the New-York State Agricultural Society. By JOHN P. NORTON, Professor of Scientific Agriculture in Yale College. Albany: ERASTUS H. PEASE & COMPANY. 1850.

The design of this work, in the language of the author, is to "clearly and distinctly explain the great principles that are involved in the applications of science to agriculture." In reference to the manner in which this design has been carried out, we cannot better express our own views than by the adoption of the language of the committee by whom the examination of the essay was made and the prize of $100 awarded:—"As a work of science, it embodies every principle and fundamental feature of Agriculture which has been developed to this period, and having the stamp of truth arrayed in simple yet perspicuous language, it would seem expedient that no effort should be spared to carry this work to the home of every man, whether directly or remotely connected with the pursuit of Agriculture. Until science shall unfold to us other facts, and further developments of nature's laws, this work should be the elementary text-book for every person who studies the cultivation of the earth; it should form a prominent object in every school-district in the state, and be strong alike in the affections of teacher and pupil."

The committee closed their report by recommending that the work be adopted by the publishers of books for the school-district libraries. The Executive Committee of the State Agricultural Society, have also passed a resolution authorising the printing of one thousand copies at the expense of the Society, to be awarded as premiums. We are confident the work will meet with a ready demand, and that it will be read and studied with great satisfaction and advantage by all who are interested in the principles of agriculture.

THE ADVOCATE OF VETERINARY REFORM, and Outlines of Anatomy and Physiology of the Horse; containing also a VETERINARY DICTIONARY; by G. H. DADD, M. D., Boston.

The principal object of the first division of this work, appears to be to produce what the writer calls "reform," in the treatment of the diseases of animals. This reform is to consist, mainly, in the abandonment of "destructive agents," so called—in other words, blood-letting, and poisonous substances. As a substitute for this, the work under consideration advocates a system which seems to contemplate rather the prevention than the cure of disease. The directions in reference to this point are, in the main, such as would be approved by persons acquainted with the subject. We agree to the old adage that "an ounce of prevention is worth a pound of cure;" still, with the strictest observance of this rule, we apprehend animals will sometimes be sick, and in such cases it will be necessary to adopt the best means for relief and cure. It is impossible to say what these are, under all circumstances; but the propriety of restricting the catalogue of medicines to those wholly of a "botanic" origin, (whether poisonous or harmless,) will probably be doubted by many successful practitioners, whose opportunities for observation and the acquirement of knowledge in the veterinary art, have been neither few nor small. The same remark may be made in reference to the rejection of the lancet, in the treatment of disease. It is not our present purpose, however, to make decisions where "doctors disagree." Dr. DADD's book contains much that is valuable *beyond controversy*. It is handsomely printed and bound, and comprises upwards of three hundred pages.

THE FARMER'S GUIDE.—We have received the second number of this work, which we take occasion again to recommend. The single chapter on Meteorology, which is completed in the second number, is more than worth the price of the whole work. We will remark in reference to its change of title from "The Book of the Farm," that we are authorized to say that such change has been made with the full understanding and consent of Mr. STEPHENS, and the Edinburgh publishers.

THE POULTRY BOOK: A Treatise on Breeding and General Management of Fowls; with numerous Original Descriptions and Portraits from life. By JOHN C. BENNETT. Boston: PHILLIPS, SAMPSON & COMPANY.

This is a work of 310 pages, 12mo., printed and bound, in excellent style, and in general execution is superior to any work of the kind which has appeared in this country. It will probably have an extensive sale.

THE FAMILY KITCHEN GARDENER; containing plain and accurate descriptions of all the different species and varieties of culinary vegetables; with their botanical, English, French, and German names, alphabetically arranged, and the best mode of cultivating them in the garden or under glass; with a description of implements and medicinal herbs in general use; all descriptions and characters of the most select fruits, the management, propagation, ect., illustrated with twenty-five engravings; by BOBERE BUIST. New-York: C. M. SAXTON.

This is a well-known, standard work, which has passed through several editions. The present edition is handsomely printed, and makes in all respects a creditable appearance. We can safely recommend the work to all who wish information on the subjects of which it treats.

THE AMERICAN BIRD FANCIER; considered with reference to the breeding, rearing, feeding, management, and peculiarities of cage and house birds; with remarks on their diseases and remedies; drawn from authentic sources and personal observation; by D. J. BROWNE. New-York: C. M. SAXTON.

This is a neat little volume, copied chiefly from various European authors. It is "got up" in beautiful style—the type and the illustrations being of the very best character—and from a glance at the contents, we presume they will be found useful to those persons for whom they are designed.

Song of the Plowman.

See, the morning breaks away,
Waken plowman to your toil;
From early dawn to gloamin' grey,
Guide the plow and till the soil.

Draw the furrow wide and deep,
Scatter widely—never spare;
Let the harrow o'er it sweep—
The faith of future bread is there.

Nature now her aid is bringing,
Green the dewy blade is springing;
Hear the lark above it singing—
The faith of future bread is there.

The vernal sun all brightly glows,
Diffusing life and joy around;
The genial showers so mildly flow,
Imparting freshness to the ground.

Cattle on the lea are feeding,
Fleecy flocks the hills adorning;
Beauteous flowers their blossoms spreading,
Charm the eye and cheer the mind.—*Selected.*

Notes for the Month.

COMMUNICATIONS have been received, since our last, from E. J. Genet, A Farmer's Wife, W. L. Eaton, Hon. F. Holbrook, Prof. J. P. Norton, Observer, J. A. H. Ellis, M. H., A Gleaner, Norfolk, H. L. Brown, *, S. P. Rollo, A. W. P., A Connecticut Farmer.

BOOKS, PAMPHLETS, &c., have been received as follows:

Elements of Scientific Agriculture: by Prof. J. P. NORTON, of Yale College. From E. H. PEASE & Co., publishers, Albany—price 75 cents.

The Poultry Book: by J. C. BENNETT, M. D. From the publishers, PHILLIPS, SAMPSON & Co., Boston—price 75 cents.

The Story of a Family: by the author of the "Maiden Aunt." From E. C. LITTLE & Co., Albany—price 50 cents.

The Family Kitchen Gardener: by ROBERT BUIST. From the publisher, C. M. SAXTON, New-York.

An Introduction to the Water Cure: by T. L. NICHOLS, M. D.,—(price 12½ cents,) and

Thoughts on Domestic Life: by NELSON SIZER, (price 12½ cents,) from the publishers, FOWLERS & WELLS, New-York.

A choice collection of Ornamental Plants, from A. J. DOWNING, Esq., Newburgh.

A bundle of Apple Trees, containing over thirty of the best varieties, from J. J. THOMAS, Macedon.

Seeds of the "Round Borneo" Citron Melon, which took the first prize at the last annual exhibition of the Penn. Hort. Society, from THOMAS HANCOCK, Ashton Nurseries, Burlington, N. J.

THE AMERICAN FRUIT CULTURIST.—Copies of this work were sent by mail, the last week in March, to all our Agents who were entitled to it, by having sent us fifteen subscribers and $10. We regret to learn, as we do from various letters, that many of those to whom it was sent, have failed to receive it. Upon inquiry, we have ascertained that many copies of it have been detained in the Philadelphia post-office, for some cause to us unknown. We shall endeavor to ascertain the cause, and have them forwarded as soon as possible.

TRIAL OF PLOWS.—The trial of plows under the direction of N. Y. State Ag. Society, as noticed in our April number, is to commence on the 4th inst. A piece of ground, which will afford a fair field for the contest, has been selected in Greenbush. We understand that a large number of entries have been made, and there is every prospect that the occasion will be one of interest.

CORRECTION.—In the notice of a sale of stock by Mr. VAIL, in our last number, a mistake occurred in regard to the name of the purchaser, which was stated to have been Mr. Humphrey. The purchase was made by Mr. EDWARD BELKNAP, of Henrietta, Jackson Co., Michigan; and consisted, as we learn, of the bull American Comet, 2½ years old, by Meteor, at $300—the cow Esterville, (bred by Mr. Prentice, of Mount Hope, and by him sold to Mr. Vail,) at $300—cow Victoria by Wellington, $200—and two heifers at $100 each.

PATENT OFFICE REPORT—PART II.—This comprises the agricultural portion of the report, which has been presented to Congress, and 150,000 copies ordered printed. It was drawn up by Dr. DANIEL LEE, who has submitted in connection with it, some "suggestions for the improvement of agriculture," arranged under the heads of Agricultural Education, the Ravages of Insects, Analysis of Soils and Fertilizers, Preservation of Provisions, Improvement of Domestic Animals, Distribution of Seeds, How cities exhaust the Fertility of Land, &c. Many of the suggestions, under these several heads are of an important character, and eminently worthy the attention of all who desire the promotion of this fundamental interest.

PORCELAIN WARE.—In our volume for 1848, we noticed the crockery ware manufactory of Messrs. LYMAN & Co., Bennington, Vermont. At the time of our visit to the establishment, they had just commenced experiments in the manufacture of fine porcelain, and also a new kind of ware, both of which have, we learn, been entirely successful. The *Philadelphia Ledger* notices some of the ware, which has been exhibited in that city, which is said to equal in beauty and quality, the best china or porcelain known. In addition to the qualities of strength, durability and beauty, it is said to be afforded at lower prices than similar articles of clay ware. Its uses are not confined to the usual crockery ware, but the inventors make from it door-knobs, daguerreotype frames, fancy brackets, letters for signboards, figures for numbering, and almost everything of the sort.

SALE OF MR. SHEAFE'S SHORT-HORNS.—By the advertisement of Mr. ALLEN, in this number, it will be seen that this herd will be sold at public auction on the 29th of August next. The occasion will furnish a good opportunity for the purchase of good stock of this breed. Several of the animals, which we have seen at Mr. SHEAFE's farm, are of superior quality, especially for the dairy. The bull Exeter we have not seen, but are assured by competent judges, that he is an animal of rare excellence.

TRANSMUTATION.—We have another article from "A GLEANER," on this subject, which he particularly desires to have published. Could any good arise from its publication, we would cheerfully comply with his request, long as the article is. We are certain, however,—just as certain as we are that no one in these days can perform a miracle,—that our correspondent is deceived as to what he supposes to be a fact. He asserts that, in his boyhood, "a ten acre field was sown with wheat—that it came up, and looked extremely promising, both in the fall and spring," and that "*this entire field yielded chess-heads with wheat stalks.*" He *saw* this himself, and consequently thinks he *cannot* be mistaken; and yet, and we say it with all proper respect, we should just as soon have credited the statement if he had said that the wheat-stalks bore Indian corn, with potatoes at the roots. The one is just as likely, in our opinion, to have occurred, as the other.

GREAT PLOWING MATCH IN CANADA.—A plowing match for a prize of $400, took place near Thornhill, C. W., on the third of May last. The competition was between the townships of Vaughan and Scarboro—twenty plowmen being selected on each side. The match created great interest, and four thousand persons are said to have attended the trial, among whom was the Governor General, Lord ELGIN. The contest was so close, that much difficulty attended the decision; but the prize was finally awarded to Scarboro.

SHORT-HORN BULL LOCOMOTIVE.—In reference to the inquiry in regard to this bull, published in our last, we have received a letter from Dr. MARTIN, of Kentucky, stating that he is dead.

THE CURASSOW.—We learn from the *Southern Cultivator* that JOHN W. BODDIE, of Oak Ridge, Ga., has procured from South America a pair of curassows, which are so well domesticated that he keeps them in his poultry yard. We are informed, also, that R. L. COLT, Esq., of Patterson, N. J., has specimens of some of the curassow family. It is a bird nearly equalling the turkey in size, and its flesh is said to be of excellent quality. It has been

domesticated in several instances in Europe, and we hope its introduction to our own country, may be the means of adding it permantly to our list of domestic birds.

CLOD CRUSHER.—ROBERT CHISOLM, Esq., of Beaufort, S. C., writes—"Since I wrote you last I had one of the clod crushers I alluded to, made and tried on very stiff clay-swamp land, where in consequence of the roots and its roughness, I could not use any harrow; and was quite pleased with its working. It will require four oxen or horses to draw it, but I think it cheaply worked even at that, and a light harrow after it would put the land in excellent order for sowing any of the small grains."

A. W. P.—We notice your advice in regard to the publication of "*foolish* articles," but to us it appears as "foolish" to *ask* how to prevent hens from *scratching*, as to *tell* how to prevent them from *sitting*.

VEGETABLE CUTTER.—We have seen a machine for cutting vegetables, invented by WILLIS AVERY, of Salisbury Centre, N. Y. It is in some respects different from any which has before come to our notice. It is made of different sizes, according to the usses required. A small size is adapted to cutting potatoes into slices suitable for frying, &c. It it sold at $5. It can be regulated to cut the pieces of any thickness, and does its work perfectly. A larger size is adapted to cutting all kinds of vegetables for stock, and is sold at $8. This size, it is said, will cut a bushel in two minutes.

Answers to Correspondents.

CULTIVATION OF THE CRANBERRY.—L. H. H,. St. Lawrence county, N. Y. The best directions we have seen on this subject, were given in our volume for 1847, p. 34.

BONE-DUST AND LIME.—S. P. R., Stephentown, We presume the application of bones, and perhaps lime, also, would benefit your land; but the actual profits arising from the use of either, in any particular case, can only be determined by an experiment in which they should be compared with other manures.

STONE AND WOODEN DRAINS.—B. McS., Virginia. Covered drains of boards and scantling will answer a very good purpose, and in a clayey soil, will last many years. Drains of stone are often made, and will *draw* if well constructed, and well covered with turf, so that the earth cannot wash in. Stones broken to the size of a hen's egg are considered best; but those of two or three pounds weight are sometimes used. Tiles, are, however, considered more effectual than any other article for drains. See May No. of the current vol. *Cultivator*, pp. 163, 164, and vol. for 1849, pp. 174 to 176.

TO PREVENT THE SCRATCHING OF HENS.—A. W. P., Rye, N. Y. If grain is soaked in a solution of copperas, or in urine, or is coated with tar, as is mentioned in regard to corn, in our April and May Nos., fowls will not eat it, and will soon get tired of scratching for it. Fowls may be prevented from scratching in various ways. They may be fettered by a string or strip of leather fastened to their legs so as to allow them to waddle about, but not permitting sufficient stretch of the legs to scratch much; or a piece of cloth, or thin pliable leather, may be tied over each foot and around the leg. We have seen the nail of the longest toe broken off with a hammer, which entirely prevents the fowl from scratching while it remains sore, and is, to some extent, a prevention afterwards; but it is too barbarous to be recommended.

Prices of Agricultural Products.

ALBANY, MAY 20, 1850.

[*Review of the Market for the last month.*]

FLOUR.—During the past month there has been a good demand for flour, with considerable fluctuation in quotations. The market, at the close of last month became gradually firmer, and prices continued to advance steadily until the 8th or 10th instant, (mainly induced by the difficulties in the navigation of the canal,) when the price fell off and the large receipts caused a dull market. These receipts having been worked off, the market within a day or two has again advanced and quotations mark a higher figure than we have seen for several months, and the tendency of prices is to a still further improvement. The receipts by canal are now light, and the prospect of supplies from the Western States, as shown by the receipts at Buffalo, is in a measure cut off, the favorable time of the Southern Markets of Cincinnati, St. Louis, &c., drawing everything in that direction. The sales during the month have been 25,000 to 30,000 bbls., chiefly of the better grades of State and Western; the market at the close may be quoted at $5a$5.25 for ordinary to good State, $5.25a$5.37½ for favorite do., $5.37½a$5.62½ for mixed to straight Michigan and Ohio, $5.62½ for Pennsylvania, $5.62½a$5.81½ for pure Genesee, $5.87½a$6 for fancy Genesee and Ohio, and $6.12½a$6.37½ for extras.

GRAIN.—There has been a good milling demand for prime wheat, but the receipts have checked operations; the sales have only been of prime Genesee, which rateably commands higher figures than flour; the sales add 9,000 bushels at 131*a*134c., closing firm at the higher figure, with an upward tendency. The only sale of Canal Rye reported was a lot of 2,000 bushels at 56½c. 56lbs. In Barley, there has been a fair business done, though the greater portion of the receipts by canal had been sold to arrive; the sales reported were about 10,000 bushels, four-rowed chiefly, at 68*a*69c., closing at 65*a* 66c., and 18,000 do., two-rowed chiefly, at 68*a*70c., and closing at 64 *a*65c.; some lots which were held above the views of buyers, and shipped to N. Y., have been purchased there on Albany account, at low figures; the season is now over. Oats have been in active demand, exceeding the supply, which is very good, and prices have steadily advanced; the sales reported have been 54,000 to 55,000 bushels canal, at prices ranging from 42½*a*44½c., closing fairly at the higher figure. Corn has been in brisk demand, and the market since the opening of the canal, has had a gradually improving tendency; an active demand both for the home trade and for shipment, is anticipated which the gradual advance of the article abroad supports; the sales reported, of all descriptions during the month, have been about 135,000 bushels, ranging from 58*a*60½c. for Northern Yellow, 58*a*60c. for flat Yellow and high mixed, and 57*a*60c, for western mixed, closing firm at our outside figures. In mult, we noticed sales 5000 bush. at 80*a*81½c.

WHISKEY.—The light receipts have restricted sales; the transactions for the month are 740 to 750 brls., closing at 23¼c., 23½ for S. P., and including a small parcel Ohio brls. at 23c.

PROVISIONS.—The sales have been confined almost exclusively to cut meats; we notice one or two small parcels of Mess Pork, city packed, at $12*a*$12.50, and of Mess Beef, at $10. In cut meats, sales 50,000 to 60,000 lbs. at 9c. for smoked hams, city cured, and 7 *a*7⅞ for western do.; 6c. for city cured shoulders, and 3c. for sour hams; we also notice a sale of 700 packages Chicago cut meats at 6c. for hams and 4c. for shoulders.

SALT.—The first cargo of salt was taken at 10c. for bags, and 106¼c for barrels, to the extent of 7500 packages.

HOGS.—We notice sales of several hundred head live hogs, at 3 5-16*a*3½c.

SEED.—The business is closed; we have no sales of moment to report.

WOOL.—Until the new clip is received, business will be dull; the transactions during the month have been unimportant.

Prospects for the Clip of Wool of 1850.

We are indebted to a gentleman who has been for years familiar with the wool-trade, for the following article, for which we return our thanks. We are happy to inform our readers that we expect similar reports for each month.—EDS.

The depression in the wool manufacturing and wool-growing interests of the United States in 1848, caused something of gloom in regard to the market value of wool in the spring of 1849; and it was confidently anticipated in all quarters that prices would rule but little higher than in 1848, for the then approaching clip. After the shearing season was over, however, a new impulse was felt, and the prices of all grades, particularly for medium and low qualities, gradually advanced until February, 1850, when they had reached a point from 4 to 6 cents a pound higher than in February, 1849. The difference between prices in the latter year, as compared with 1848, was greater from August to January, than at the period above mentioned. This advance was caused partly by an active spirit of speculation, and partly by the brightening prospects of the manufacturing interests.

The stock of domestic wool now remaining on hand is very small, and consists chiefly of the fine Saxon grades, for which there is less demand than for the lower qualities; and prices have receded since February The stock of woolen goods in the market, both foreign and domestic, is large, the spring sales having fallen short of the expectations of both manufacturers and Merchants. The rates at which recent sales have been made are about the same as in November last, excepting for some styles of the finer fabrics, which have declined; and it is believed that the manufacturers of this description of goods

are not so well remunerated for their labor. and the capital employed as those who make the medium and low qualities.

Judging from the present state of the cloth trade, and the small stock of wool remaining in market, it is supposed that the opening prices for the coming clip will be somewhat above those of last season; and that whatever advance, if any, which may follow, will not be so rapid as in 1849; and that should the supply of medium and low wools fall short of the demand, (which seems probable, should all the machinery be kept in motion,) the prices may rule nearly as high in the course of the year as they did last year. For the finest Saxon grades a similar result cannot be expected, as the supply somewhat exceeds the present demand. The prospect, however, in regard to these qualities may be changed for the better, by an advance in the prices of fine broadcloths and cassimeres, a result which is probable, though not certain.

It is believed that the clip of wool of 1850 will fully equal that of 1849—less in some sections and more in others; and that upon the whole this important branch of agricultural industry will be fairly rewarded.

Full Blood Durham Bull

FOR SALE. A white bull, 3 years old, well made. Bred by J. M. Sherwood. Price $40. R. B. HOWLAND.
Union Springs, June 1, 1850—3t.

Full Blood Berkshire Pigs.

THE subscriber offers for sale a fine lot of young Boars and Sows, at prices from $2 to $4. The boar they were raised from took the first premium at the Buffalo Fair. R. B. HOWLAND.
Union Springs, Cayuga county, June 1—1t.

Importation and Sale of Stock.

MR. L. G. MORRIS, of Mount Fordham, Westchester County, N. Y., left New-York on the 17th April, for Europe. One of his main objects is to obtain agricultural information generally, and especially to purchase such domestic animals as are calculated to improve the stock of the United States, He purposes to attend the sale of the Short-horn cattle belonging to the estate of the late THOMAS BATES, Esq., of Kirkleavington, Yorkshire; but will not confine his purchases to that herd. He expects to return to America in September next, and the second annual sale of cattle from his own herd, will take place in October. Whatever stock he may import, will be at his place at the time of sale. Printed catalogues of the animals to be sold, will be issued in due time.
June 1. 1850—4t.

C. M. Saxton.

120 *Fulton street, New-York, (up stairs.)*

HAS just published *THE FAMILY KITCHEN GARDENER*, containing plain and accurate descriptions of all the different species and varieties of Culinary Vegetables, with their Botanical, English, French and German names, alphabetically arranged, and the best mode of cultivating them in the garden or under glass, with a description of implements and medicinal herbs in general use.

Also, descriptions and characters of the most select fruits, their management, propagation, &c., illustrated with twenty-five engravings. By Robert Buist, author of the American Flower Garden Directory, Rose Manual, &c. Price 75 cents, cloth; mail edition, 50 cents. June 1—1t.

Kinderhook Wool Depot.

THIS enterprise will be continued upon the same principles as heretofore, viz:

The FLEECES will be thrown into *sorts*, according to *style* and *quality*.

A discrimination will be made between wool in good or bad condition.

All who desire it can have their clips kept separate.

Sales will invariably be made for cash.

The charges will be, for receiving, sorting and selling, one cent per pound, and the insurance, which will be 25 cents on $100 for a term of three months.

Liberal advances in cash, made on the usual terms.

Reference can be had to

Dr. J. P. BEEKMAN, Kinderhook.
B. P. JOHNSON, Albany.
T. W. OLCOTT, "
R. H. KING, "
Messrs. FREELAND, STUART & Co., N. Y. City.
Messrs. M. D. WELLMAN & CO., Massillon, O.
R. CARTER, Chicago, Ill.
Messrs. OGDEN & JONES, Chicago, Ill.
JOHN F. GILKEY, Kalamazoo, Mich.
SAMUEL PATTERSON, Washington Co., Pa.
R. A. ALLEN, Liberty, Bedford Co., Va.

DIRECTIONS FOR SHIPPING.—Sacks should be marked, "H. BLANCHARD & Co., Kinderhook, N. Y." The connections between the various transportation lines are so regular, that in ordinary cases, contracts can be made for shipping to East Albany, (opposite Albany,) if sent by the Northern route; and T. L. Green, agent for the Railroad at that place, will forward to Kinderhook. If sent by the Southern route, contracts can be made to New-York, and J. H. REDFIELD & CO., corner of Broad and South Sts., agents of the Swiftsure line of Tow-Boats, will forward to East Albany. The initials of the owner's name should be upon each sack, and an invoice forwarded to us at the time of shipment, stating the number and weight of each bale; also contract prices for shipping, if any are agreed upon.
June 1—2t.

Books for the People.

THE AMERICAN FARM BOOK, or compendium of American Agriculture, containing a concise and plainly written Exposition of duties pertaining to the Cultivation of the Earth, the Management of the Farm, &c. &c., on practical scientific principles; by R. L. Allen. The cheapest and most valuable book for a farmer ever printed; being a complete guide, both practical and scientific, for the management of the Farm. Price $1 in cloth, 75 cents paper.

BROWNE & ALLEN'S AMERICAN POULTRY YARD.—Price $1 in cloth, gilt binding; 75 cents in paper covers. Comprising the Origin, History and Description of the Different Breeds of Domestic Poultry, with directions for their Breeding, Crossing, Rearing, Fattening and preparation for market; including specific directions for Caponising Fowls, and for the treatment of the principal Diseases to which they are subject. Drawn from authentic sources and personal observations. Illustrated by numerous engravings.

AMERICAN BIRD FANCIER—Considered with reference to the Breeding, Rearing, Feeding, Management and Peculiarities of Cage and House Birds. Illustrated with engravings,. by D. J. Browne, author of the "Sylva Americana," "The Amercian Poultry Yard," &c. Price. in cloth, gilt, 50 cts; cheap edition, 25 cts.

THE AMERICAN BEE-KEEPER'S MANUAL, Fourth edition. By T. B. Miner. Price $1, in cloth.

"The most complete work on the Bee and Bee-Keeping we have yet seen."—*N. Y. Tribune.*

THE AMERICAN ARCHITECT—Complete in 24 numbers, at 25 cents each, or $5 for 24 numbers. $6, bound in 2 vols.

DANA'S PRIZE ESSAY ON MANURES—A new and enlarged edition. Price 25 cents.

ILLUSTRATED TREATISE ON THE DISEASES OF ANIMALS—Being a History and Description of the Horse, Mule, Cattle, Sheep, Swine, Poultry and Farm Dogs, by R. L. Allen. Price 75 cts. cloth, 50 cts. paper.

GUNN'S DOMESTIC MEDICINE, or Poor Man's Friend, in the hours of affliction, pain and sickness, a safe and reliable guide. Raymond's copy, price $3.

Published by C. M. SAXTON,
Agricultural Book Publisher,
June 1, 1850—1t. 120 Fulton st., New-York.

Webster's Quarto Dictionary.

WITHOUT reserve or qualification, the best extant.—*President Olin.* "Surpassed in fullness and accuracy by none in our language."—*President Wayland.* "It far excels all others in giving and defining scientific terms."—*Pres. Hitchcock.* "The standard wherever the English is spoken, it deserves to be, must be, is, and will be."—*Prof. Stowe.* "An honor to the language."—*Pres. Humphrey.* "A copiousness, perspicuity, and accuracy, not found in any other."—*Pres. Day.* "A great improvement on all which have preceded."—*Pres. Bates.* "Worthy of general patronage."—*Pres Woods.* "Most complete, accurate, and reliable of the language."—*Pres. Beecher, Pres. Larrabee, Pres. Keller, Pres. Woolsey, Pres. Blanchard, Pres. Smith, Pres. Knox, and Chancellor Frelinghuysen.*

Published by G. & C. MERRIAM, *Springfield, Mass.*, and for sale by Booksellers generally. June 1.—1t.

Good's Family Flora,

EMBRACING the three comprehensive and important departments which include all that is necessary or useful to be known respecting PLANTS, viz:

I. THE BOTANICAL ANALYSIS, extensive and thorough, effectually perfecting those in Botany who possess only the first principles of the science.

II. THE NATURAL HISTORY, more particularly adapted for the general reader, and embracing the cultivation and propagation of *plants.*

III. THE CHEMICAL AND MEDICAL PROPERTIES AND USES, showing in a popular form the importance and application of *plants* in the various diseases of the human family.

The whole embellished with colored plates painted by hand, from original drawings copied from nature.

☞ *These plates are excellent samples for young persons learning drawing or painting.*

Vol. I. contains an extensive glossary of botanic terms—forty-eight plates of plants, No. 1 to 48 inclusive, each colored, separate and independent—with the usual letter press matter to each, and an uncommonly striking likeness of the late JOHN MASON GOOD, M. D., F. R. S., &c. &c., with a notice of his life, writings, character, &c.

Over 300 pages, large octavo, bound. price $4—*colored.*

PETER P. GOOD, Publisher,
Elizabethtown, Essex Co., New Jersey.

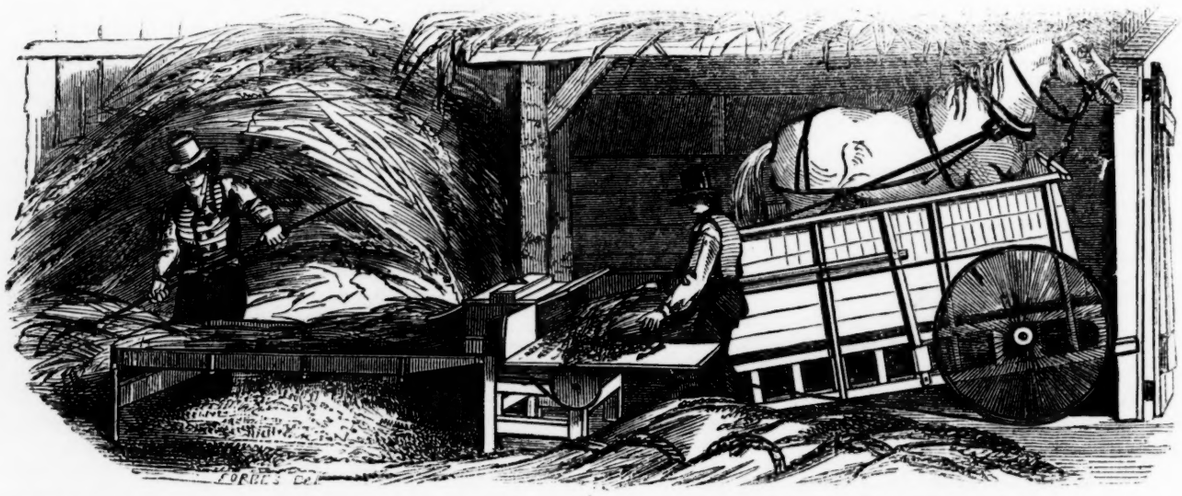
Apply as above, per mail, and the whole of the work for 2 years, may be forwarded through the Post Office to any address in pamphlet form, (postage 30 cents.) Thus individuals may obtain the first volume, as above, on remittance of $3 (postage free,) and bind it to suit their own tastes.

☞ The Family Flora cannot be obtained on so good terms in any other way. June 1—1t.

The Norman Horse.

THIS Thoroughbred Stallion will stand for mares the present season, on Tuesdays, Wednesdays and Thursdays, at Union Springs, Cayuga County; on Fridays at Canoga, and Saturdays at Bearytown, in Seneca County. Pasture 3 shillings per week. Mares at the risk of the owner. ROBERT B. HOWLAND.
Union Springs, June 1, 1850.—2t.

WHEELER, MELICK & CO.'S AGRICULTURAL WORKS,



THE above cut represents one of Wheeler's Single Horse Powers and Threshers, operating on a common barn floor. Inside the cover of this number of The Cultivator, its readers will find a large cut, illustrating the operation of a Double Power and Thresher. For details respecting the qualities and character of these machines, and the names and location of some of our agents, the subscribers refer to their Advertisement in the May number of The Cultivator. The article which we give below from the "Valley Farmer," published at St. Louis, State of Missouri, is but one of a large number of notices equally favorable, which have appeared in different Agricultural Papers, showing the high esteem in which these machines are held in the diferent grain producing States of the Union.

These Powers and Threshers, with a variety of other agricultural machines and implements, are manufactured by Wheeler, Melick & Co., at their Agricultural Works, Albany, and sold at Wholesale & Retail by the manufacturers, and by their Agents in the different States of the Union. WHEELER, MELICK & CO.,

Hamilton Street, corner of Liberty and Union sts.,

June 1, 1850. Albany, N. Y.

Extract from an editorial article in the Valley Farmer, for April, 1850.

"WHEELER'S HORSE POWER AND THRESHER. This machine, manufactured in Albany, N. Y., has taken the precedence wherever used, of all others. Large numbers have been sold in the East, but until very recently it has not been introduced into the west. In the May number of the Farmer, we shall publish an extended notice accompanied by an engraving. The editor of the Prairie Farmer says that with this machine, 2 horses and 4 or 5 men have done as much work, day by day, as Threshers with 8 horses and 10 men, operating along side of them.

"For several years, we have been urging the want on the part of Farmers, of a small horse power which each one could own, keep, and use with his own help, without being obliged to call on his neighbors, to assist him in getting out his grain. This implement meets that want, so far as we can judge."

Circular.

THE subscribers are making and vending J. W. SHERMAN'S

New Seed Drill and Broadcast Sower,

Constructed upon a new principle; cheaper, simpler, and more *durable and accurate*, than any similar machine now in use.

We are building three different qualities of these machines. No. 1, is a superior Drill and Broadcast Sower, and will sow fine Manure (such as Plaster, Ashes, Guano, &c.,) *Broadcast*, or in the drill rows, any desirable quantity per acre, at the same time of drilling in the grain. It is well finished, substantially made, of good material, and *warranted*—at the low price of $65.

No. 2. is built for drilling all kinds of grain. It will also sow fine manure, broadcast, on crops. Price $55.

No. 3, is a plain Wheat Drill: simple, accurate, substantial. Price $45. *None of our machines will clog in the runs*; they cannot do so with the most difficult kind of seed; THE DISTRIBUTING PRINCIPLE BEING ENTIRELY NEW.

We are prepared to supply all orders. Those wishing to purchase drills, would do well to see ours before purchasing elsewhere. The sooner the order is given, the more sure you will be of getting your Drill in time.

N. B.—Persons wishing to make or sell our Drills, are offered a good chance.

A large descriptive bill will soon be issued with cuts. All communications or inquiries [post paid,] will receive prompt attention. Address Sherman, Foster & Co., Palmyra, Wayne county, N. Y. Those wishing it, can see the machines at Foster, Jessup & Co's Machine shop, Palmyra; where they will also find the best Thresher and Separator, Revolving Horse-rake, (spring teeth,) wheel Cultivators, and other agricultural implements; warranted superior. *Call and see.*

Mr. SHERMAN is agent for the sale of McCormick's Virginia Reaper. SHERMAN, FOSTER & CO.

Palmyra, June 1, 1850—2t.

Great Sale of Short Horn Cattle.

THE subscriber will offer for sale, without reserve, at public auction, on Thursday, the 29th day of August next, at 1 o'clock, P. M., on the farm of J. F. Sheafe, Esq., at New Hamburg, Duchess Co., New York, about 35 head of Short horn cattle, including cows, heifers and calves.

This herd was mostly bred by Mr. Sheafe, and I do not hesitate to say, that I think it *one of the very best* in the United States; and I have seen and particularly examined nearly all of them. Great attention was paid in the commencement of this herd, to the milking properties of the animals forming it; and this, together with fine points and good growth and constitution, have been steadily kept in view in its breeding. There is but one cow in the herd which gives less than 20 quarts per day, in the best of the milking season, while one has given over 29 quarts per day, and made 15 pounds 3 ounces of butter per week, and two others have given respectively, 31 and 36 quarts per day. Their color is of the most fashionable and desirable kind—red, red-and-white and a rich strawberry roan—only one white cow in the lot. They are of good size and fine style, and all in calf to the superb imported bull Exeter, who will also be offered for sale at the same time.

Pedigree of Exeter.—Exeter is of the Princess tribe of Short horns—was calved in June, 1848, and bred by Mr. John Stephenson, of Wolviston, Durham, England. He was got by Napier, (6,238,) out of Jessamine, by Commodore, (3,452)—Flora, by Belvidere, (1,706)—Jessey, by Belvidere, (1,706)—Cherry by Waterloo, (2,816) &c. See English Herd Book, Vol. V., for full pedigree.

Exeter was selected for Mr. Sheafe, by a first rate judge of Short horn stock, and was considered one of the *very best bulls* in England. Quite a high price was paid for him; and it is believed that his superior, if even his equal, has never before been imported into this country. He carries an enormous brisket for his age, and his style, handling, and quality are of the finest kind. His color is mostly a beautiful yellow red, which is a bright red with a fine golden or saffron undertinge, arising from a rich yellow skin. He is the *only bull of this peculiarly desirable red*, ever imported into America. Calves got by him, out of this herd of cows, will fetch a high price the moment they are dropped.

Mr. Stephenson, the breeder of Exeter, now stands at the head of his class in England, and his stock is of the highest repute. It is entirely of the Princess tribe, and traces its pedigrees, without any alloy or Galloway blood, back to pure Shorthorns, for upwards of *two hundred years*; a matter of no small consideration to those who wish a *superior fresh cross*.

Catalogues of the above stock, with pedigrees in full, are now ready for distribution.

Southdown Sheep.—A choice flock of this superior breed of mutton sheep, will be sold on the same day as above.

Suffolk Swine.—One boar and several breeding sows and pigs, of this fine breed of swine.

Working Oxen.—A handsome pair of red working oxen.

A. B. ALLEN, 189 Water st., New-York.

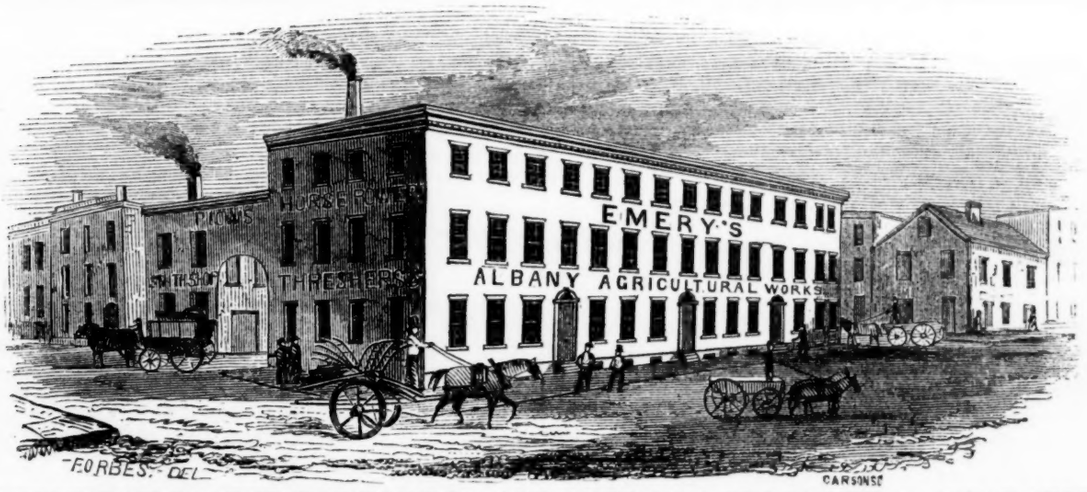
June 1, 1850—3t.

Dunn's Scythes.

GRASS, Grain, & other scythes from the celebrated Nor. Wayne Scythe Co., late R. B Dunn's.

Having sold these scythes for several years with uniform good success—(not one in a hundred having failed and been returned)—he does not hesitate to recommend them as equal if not the best in use. For sale by H. L. EMERY,

June 1, 1850. Nos 369 & 371 Broadway, Albany, N. Y



PATENT RAILROAD HORSE POWERS, AND OVERSHOT THRESHERS & SEPARATORS.

With recent important improvements. Manufactured at the AGRICULTURAL WORKS, and sold, wholesale and retail, at the AGRICULTURAL WAREHOUSE AND SEED STORE OF HORACE L. EMERY,

Nos. 369 & 371 Broadway, Alban , N. Y.

THE Subscriber has at great expense of time and money done much to introduce these machines throughout the country generally, and with such success that he is fully satisfied of their superiority over every other kind of Threshing Machinery in use, with which he is acquainted.

Probably no other machines yet invented have met with so rapid an introduction, gone so extensively into use, or given such universal and uniform satisfaction.

The rapidly increasing demand has induced him to erect during the past years, (1848—1849,) a spacious manufactory in this city, to facilitate the manufacturing, and better supply the wants of the farming community.

These increased facilities, together with his extensive Ware rooms, and complete assortment of every desirable article of Implement or Seeds wanted by the farmer, enable him to offer great inducements to the public to purchase their supplies of and through him, whether for their own use or to sell again.

Particular attention is called to the RAILROAD HORSE POWER, & OVERSHOT THRESHING MACHINES & SEPARATORS, as recently improved, by which the application of power is applied from the Endless Platform to the shaft of the driving band wheel, in such a manner as to *remove* the liability of *breaking of links and wearing of the small wheels*, and the slipping and wearing of the links and pinions in consequence, is *wholly avoided*. Greater Strength, Durability, and Lighter Friction are secured. All of which being important points not before attained in these machines.

They are comparatively light and portable—the One Horse Power, complete, weighing about 1100 pounds: the Two Horse Power, complete, weighing about 1900 pounds. When they are to be often removed, an axle and wheels are attached, forming of itself a wagon. When in use, one pair of wheels are removed.

They are operated by the weight of the horse or horses, at an elevation of about one and a-half to two inches to the foot, or 16 to 22 inches, according to the weight of the horses.

Three men, with the one Horse Power and a change of horses twice a day can readily thresh from 75 to 100 bushels wheat or rye; or four men, with a Two Horse Power, with the same team, can thrash from 150 to 200 bushels wheat or rye, or double that quantity of oats or buckwheat per day.

All can be operated inside of barns, in stormy weather, when men and teams could do little else to advantage.

The Thresher is Overshot, and is driven without any crossing of bands. The feeder stands erect and is not annoyed with dust. There is no liability of accident from the spikes, &c.—as no hard substances can injure or break them. A Separator is attached to all the Threshers, and answers an admirable purpose for separating the straw from the grain, leaving it with the fine chaff, fit for the Fanning Mill.

They have been exhibited in operation by the subscriber during the past three years, at all the principal State and County Fairs of New-York, Massachusetts, Ohio and Canadas, and been extensively introduced and used among the farmers of those states, and Vermont, Rhode Island, Connecticut, Virginia, North Carolina, Tennessee, Indiana. Illinois, Missouri, Iowa, Wisconsin and Michigan.

The First Premiums of the Societies have been awarded them, and the highest ecomiums of committees and farmers have been bestowed upon them for their SIMPLICITY, EFFICIENCY, UTILITY, DURABILITY and CHEAPNESS.

They can be taken in pieces and packed very compactly, and forwarded to any part of the country, by railroad, canal or steamboats.

He has efficient agents for receiving and forwarding machines in all the principal towns and cities in the states of New-York, Michigan, Indiana, Illinois, Iowa, Wisconsin, Ohio, Kentucky, Missouri, Vermont, &c.; and all machines delivered on board boats, cars, &c., and freights always contracted for at the lowest rates, and shipping bills made out and forwarded, without extra charge for same, insuring speed, safety, and reasonable charges for transportation.

Terms CASH, or approved notes, or city acceptances, at thirty, sixty, or ninety days, with interest.

They are warranted to operate as represented, or may be returned to the subscriber or his agents, of whom they have been purchased, within three months, and purchase money refunded.

For further particulars, see Catalogue of Albany Agricultural Warehouse and Seed Store, Agricultural Papers, and Reports of Agricultural Societies, &c., &c., or by addressing the subscriber, postage paid.

A liberal discount allowed to those persons ordering and selling the machines in their vicinity, and agents wanted to sell and put them in operation, where not introduced.

Having had long experience in the manufacture and sale of agricultural machinery, he feels assured the public will hazard nothing in purchasing their Agricultural Implements and Machinery of and through him. For the satisfaction of those unacquainted with him, and his manner of doing business, he would refer them to the following gentlemen:

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GEORGE VAIL, Esq., Ex. Presd't do do Troy, N. Y.
A. VAN BERGEN, Esq. do do do Coxsackie, N. Y.
J. M. SHERWOOD, Esq., do do do Auburn, N. Y.
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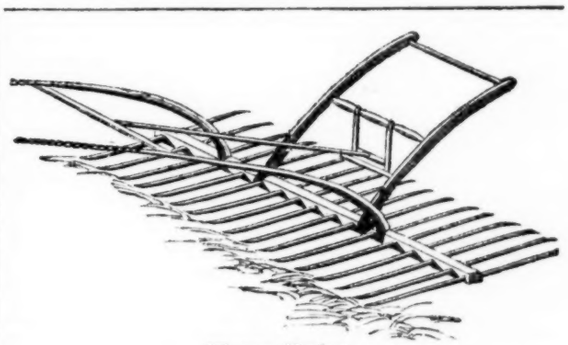
D. D. T. MOORE, Esq., former Ed. and Pub. Gen. Far., and present Ed. and Pub. of Rural New-Yorker, Rochester.
JAS. VICK, Esq., Ed. and Pub. Gen. Far., Rochester.
J. A. WIGHT, Esq., Ed. of Prairie Farmer, Chicago, Ill.
C. N. BEMENT, Esq., late Ed. and Pub. Am. Jour. of Ag., Albany.
RUGGLES, NOURSE & MASON, Manufacturers and Dealers in Ag. Implements, Worcester and Boston, Mass.
JOHN MAYHER & Co., Dealer in Ag. Implements, New York.



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CULTIVATORS, and Double Mould Board Plows, of various sizes, for cultivating and hilling Corn, Potatoes, &c.

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CONTAINING directions for the Propagation and Culture of Fruit Trees, in the Nursery, Orchard, and Garden, with Descriptions of the principal American and Foreign Varieties cultivated in the United States. With 300 accurate illustrations. One volume of over 400 pages, 12 mo. Price $1.

A cheaper, but equally valuable book with Downing's was wanted by the great mass. Just such a work has Mr. Thomas given us We consider it an invaluable addition to our agricultural libraries. *Wool Grower.*

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Auburn, April 1, 1850.—3t.

10,000 Acres of Long Island Land for Sale,

At Lake Road Station, or Irvington.

THE undersigned is, and has been for several years, engaged in the improvement and cultivation of the wild lands of Long Island. The fact being now fully established, beyond any doubt, that the land in the middle parts of the Island, along the borders of the L. I. Railroad, is as good and productive, when cultivated in the same manner, as any other part of Long Island. 10,000 acres are now offered for sale, in parcels to suit purchasers, from 10 acres, to 100, or 1,000, at a very low price, and on favorable terms. This tract is near the geographical centre of the Island, being about equi distant from Long Island Sound, and the Great South Bay, (the Island being about 13 miles wide there,) and 48 miles from New-York.

There are many highly cultivated farms in the immediate vicinity, on the north and south side of this land,—having been settled and cultivated more than 150 years. It is well watered, being bounded on the north by the famous Ronkonkama Lake—has also a large and never failing stream running through it. The lake and stream are full of fish—perch in the lake, and trout, in great abundance and of large size, in the stream. The country abounds in game, deer, and wild fowl.

The climate is mild and perfectly healthy, the surface is smooth, gently undulating, with an inclination to the south of about 15 feet to the mile—the soil—free from stone, easy and pleasant to cultivate—is a loam, large portions of which may be called a heavy loam, or it is of sufficient tenacity to make sun-burnt brick, right out of the surface—is from 18 inches to 3 and 5 fee deep, and is susceptible of the highest degree of cultivation. The railroad passes through this tract, affording easy and constant communication with the Brooklyn and New-York markets, where the highest price in cash, can always be had for every article that the farmer and gardener can produce. To capitalists, an excellent opportunity is here presented to obtain a large tract of valuable land at a low price, possessing all the advantages for settlement of a new country, without any of the privations,—but with all the privileges and comforts of an old one. Apply to A. B. ALLEN, Esq., Editor of the *American Agriculturist*, 187 Water Street, New-York, or to E. F. PECK,

306 State Street, Brooklyn, L. I.

☞Lake Road is an important and central depot on the Railroad—there are large buildings and a settlement there.

May 1, 1850—3t.

Trees! Trees!! Trees!!!

FOR SALE, at Mount Ida Nursery, Troy, N. Y., a choice variety of Fruit Trees, comprising Apples, Pears, Peaches, Plums, and Cherries, of the most approved kinds—the greater part of them worked from bearing trees, and all of them by the subscriber—therefore he can recommend them with confidence. He would also say to those that have not had the experience, that trees brought from the South (if they do live) do not grow as thrifty for a number of years, as those raised in a Northern latitude, which many persons can prove from experience. He also pays particular attention to the transplanting of his trees so as to have them well rooted.

Also, a good variety of Shade Trees, consisting of Scotch Elm, Sycamore, Linden, Horse Chestnut, Mountain Ash, Evergreen Privet for Hedges, China and Hardy Roses, &c., &c.

Catalogues and other information can be had of the Nurseryman,

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No. 197 Water street, (near Fulton,) New-York.

THE subscribers would respectfully invite the attention of planters and dealers in Agricultural and Horticultural Implements, Garden and Field Seeds, &c., &c., to their large and varied assortment of Garden and Field tools, &c., which they are selling at the very lowest rates that they can be procured in the United States. Persons living at a distance can obtain an "illustrated" Catalogue, containing a list of prices, on application by letter, post-paid. Those ordering from us may depend upon their orders being promptly filled.

May 1, 1850—tf. JOHN MAYHER & CO.,

Wire for Fences.

IRON WIRE FOR FENCING, constantly for sale at New-York prices. Z. HOSMER,

April 1, 1850—6t. 110 Milk St., Boston.

The American Live Stock Insurance Company,

At Vincennes, Ind.

CHARTER unlimited. Granted January 2, 1850. ☞Capital $50,000!☜ For the Insurance of *HORSES, MULES, PRIZE BULLS, SHEEP AND CATTLE*, of every description, against the combined risks of *Fire, Water, Accidents and Disease.*

Losses paid in 30 days after proof of death.

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☞Agents solicited for all parts of the Union. May 1—2t.

No Humbug.

THE undersigned, after 20 years' experience and much research, has discovered a cheap chemical compound, easily applied, which completely prevents the ravages of the Bee-moth, and which can be adapted to each and every kind of hive, whether patent or otherwise. This discovery he will impart to any individual on the receipt of one dollar. It being understood the purchaser shall hold himself honorably pledged, not to impart the information to others. The whole contained in a circular, to which is added several valuable suggestions in the construction of hives and management of bees, worth more than any patent hive in existence.

Address, post paid, SETH WHALEN,

May 1, 1850—3t * Ballston Spa, N. Y.

Burbank or Morgan Chief.

THIS Horse will stand the present season at the stable of the subscribers in Warren, Mondays and Thursdays: at Waitsfield, Tuesdays and Wednesdays; and at the village in Rochester, Fridays and Saturdays.

This horse was sired by the celebrated Old Woodbury Morgan, afterwards known by the name of Burbank Morgan. His dam was known by the name of Empress, and was sired by the original Justin Morgan Horse. It will therefore be seen that this horse possesses equally as much Morgan blood as either of the four Stallions sired by the Original Morgan, and more Morgan blood than any other stallion now living, except the Old Gifford, which was sired by the same horse. For further particulars, see our bills.

WRIGHT & ELDREDGE.

Warren, Washington county, Vt., May 1, 1850—2t.*

John A. Pitts,

Manufacturer of THRESHING MACHINES and DOUBLE PINION HORSE POWERS, 68 South St. Paul Street, Rochester, N. Y.

THE subscriber continues the manufacture of the celebrateed "Pitt's Separator." It is the same machine that has stood, and now stands unrivalled by any machine for Threshing and Cleaning Grain, in existence. It has been exhibited at State and County Agricultural Fairs, in the United States and Canada,—always receiving the *First Premium.*

The Horse Power, for strength, ease, durability, and cheapness of repair, is unequalled. The driving wheel is six feet in diameter, driving two full pinions, each receiving equal power; 2 bevel wheels, driven by the full pinions, connect with two pinions, on the line shaft; thus it will be seen, this Horse Power is double the strength of any single geared Power. It may be driven with from two to ten horses, depending upon the power required.

The Machines have fully sustained all I claim for them: I therefore solicit orders from those who would secure the best Threshing Machine and Horse Power.

Please address as above. JOHN A. PITTS.

Rochester, May [illegible] 1850—3t.

Poultry Books.

THE American Poulterer's Companion, by C. N. BEMENT—price $1.

The American Poultry Yard, by D. J. BROWNE and SAMUEL ALLEN—price $1.

The American Fowl Breeder, by an Association of Practical Breeders—price 25 cents.

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Transactions of the N. Y. State Ag. Society.

TRANSACTIONS of the New-York State Agricultural Society, from 1841 to 1849, eight vols., price $8, for sale at the office of THE CULTIVATOR.

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The Poultry Book
And Fowl Breeders' Guide.

BEING a Treatise on the Breeding, Raising, and General Management of *DOMESTIC FOWLS*, with numerous original descriptions, and Portraits from Life. By JOHN C. BENNETT, M. D.

This work will be found to contain a greater amount of original and other information, both practical and useful, in regard to Fowl Breeding, than is contained in all other American works together. It will be illustrated with nearly FIFTY PORTRAITS of the most choice varieties of American and Foreign Fowls, some forty of which are from life, from drawings taken especially for this work, of the most important breeds, and several of them from Fowls very recently imported.

The publishers have spared no expense to bring out this work in a superior manner, both in regard to the engravings, the merits of the work, and the general execution of every part of the book. And it is believed that the work will be found to contain more Practical Information on *Breeding and Managing Domestic Fowls*, than any work issued in this country.

Price—in Muslin binding, 75 cts.; in Paper covers, 50 cts.

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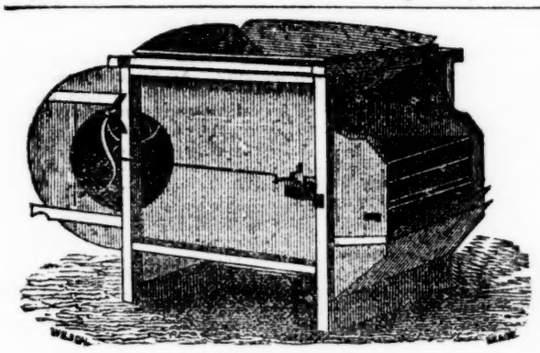
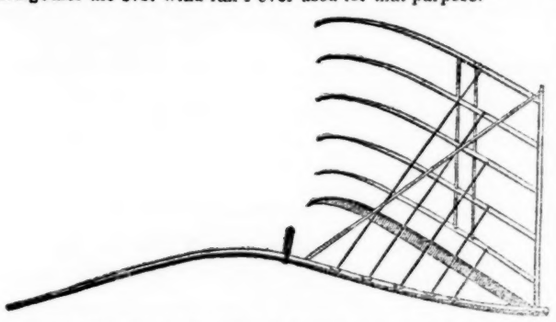


I. T. GRANT & CO.'S

PATENT *FAN MILLS AND CRADLES.* We continue to manufacture these celebrated Mills and Cradles.

They have been awarded six first premiums at the New-York State Fairs, and at the great American Institute in New York, and several County Fairs, always taking the first premium over all other mills. The manufacturers feel confident, therefore, in offering these mills to the public, that they are the best in use. During the year 1847 they were introduced into England, by Mr. Slocum, of Syracuse. They were very favorably noticed by the English papers; and from a communication of Mr. S.'s, published in the Transactions of the N. Y. State Ag. Society, for 1847, it will be seen that they were tried by several large farmers, and highly approved. One farmer, it is stated, set aside an almost new winnowing machine, for which he paid £18, ($90) and used Grant's for cleaning a crop of 300 qrs. (2,700 bushels) of wheat, and several hundred bushels of mustard seed. We have lately made some valuable improvements in the article, though the price remains the same as before.

Our fans are extensively used and highly approved at the south, for cleaning rice. We are permitted to make the following extracts from letters received from Hon. J. R. Poinsett, of South Carolina:—"The fan you sent last summer, [1848] has been successfully used to clean dirty rice, and winnow that from the threshing floor. It answers every purpose." In relation to another of our fans, he writes, (April 23, '49.)—"Both this and the first mill you sent, work very well; and the last, which is the largest that can be well worked by a man, cleans the dirty rice perfectly, and is altogether the best wind-fan I ever used for that purpose."



Our Cradles have taken the first premiums at two New York State Fairs, and are considered the best in use.

The great encouragement we have received from dealers and agriculturists, has induced us to greatly enlarge our business, and we hope by strict attention, to merit a further patronage.

Orders will be thankfully received, and receive prompt attention. I. T. GRANT & CO.

Junction P. O., Rens. Co., 8 miles north of Troy
May 1, 1850—tf.

Morgan Horse Black-Hawk.

THIS well-known stallion will stand for the present season at the stable of the subscribers; terms, $20 the season. The superiority of this horse as a stock-getter, is becoming more and more highly estimated, as his progeny increase, and their powers as fast trotters and durable roadsters are demonstrated. For particulars, see large bills. D. & D. E. HILL.

Bridport, Vt., April 1.—3t.

Sir Charles.

THIS fine young horse, owned by TITCOMB & WALDRON, of Waterford, N. Y., will be kept this season by PHILIP R. ARGOTSINGER, one mile from Johnstown, Fulton county, N. Y. He was got by Morse's Grey, dam a Messenger mare.

May 1, 1850—2t.

The Old Gifford Morgan,

THE highest blooded Morgan Stallion now remaining, will stand the coming season at the stable of Benjamin Gates, in Walpole, N. H. Terms $25. $5 of which to be paid at the time of service, and the remaining $20 if the mare prove in foal.

Pasturage furnished on reasonable terms. A. ARNOLD,
Walpole, May 1—5t.* Agent for the Proprietors.

The Thorough-bred Imported Horse Leopard,

BRED by the Duke of Bedford, is pronounced by the best judges in Canada and the States, as being superior to any blood horse ever imported from England. This horse will stand for mares at J. LAPHAM'S. For pedigree, &c., &c., see English Stud book, and the Racing Calendar for 1846—also, advertisement in *The Cultivator* for 1859.

Terms $7 service, $10 season, $15 insurance
Peru, Clinton Co., May 1, 1850—2t. O. K. LAPHAM & CO.

The Imported Thorough-bred Horse

CONSTERNATION, will stand for mares the coming season, at the farm of the subscriber, near the city of Syracuse.

TERMS.—Five dollars in advance, and five dollars additional if the mare is got in foal. Mares left with the subscriber during the season, or until he consents that they shall return, will be insured for $10. Pasture 3 shillings per week. No mare taken except at the risk of the owner. J. B. BURNET.

April 1, 1850.—3t.

The Morgan Horse

MAJOR GIFFORD, will stand the ensuing season on Mondays, Tuesdays and Wednesdays, at the stable of E. W. Sheldon, in Sennett. On Thursdays and Fridays, at the stable of S. B. Rowe, in Camillus, and on Saturdays, at the stable of John C. Munro, in Bellisle.

Major Gifford is seven years old this spring, his color a beautiful chestnut—was sired by the Gifford Morgan, his dam a pure Morgan. Breeders of good horses are invited to call and see him.

TERMS.—Ten dollars to insure. Pasturage furnished. Accidents and escapes at risk of owners. MASON & CO.

April 1, 1850.—3t.*

Morgan Horse General Gifford.

THIS justly celerated horse will stand the coming season at Lodi Village, Seneca County, N. Y. He was got by Old Gifford Morgan, out of a pure Morgan mare. In his size, color, form and action, he closely resembles his distinguished sire, and is one of the very best specimens of this invaluable race of horses.

Terms of insurance, $12.

Good pasture provided at the usual rates, and all necessary attention given to mares from a distance.

Accidents and escapes at the risk of the owners.
May 1, 1850—3t. CHARLES W. INGERSOLL.

Morse's Grey.

THIS celebrated horse will stand the ensuing season at the stable of JAMES RICE, in Spiegletown, three miles north of the village of Lansingburgh. He is a beautiful dapple grey, 15¾ hands high, strongly and finely proportioned; has trotted his mile in two minutes and fifty seconds; is a square trotter, and combines first-rate trotting qualities, and great powers of endurance, with unsurpassed gentleness and docility. His colts are justly celebrated for speed, bottom and good temper, are eagerly sought after in the market, and command prices varying from $150 to $500.

The very high reputation of his stock as road horses, and the extraordinary prices they command, render him by far the most profitable horse to breed from of any in the country.

Gentlemen sending mares from a distance, may rest assured that they will have such attendance and keeping as the owners desire, and upon the most reasonable terms. The horse will be under the charge of his former owner, Mr. CALVIN MORSE.

Terms, $10. Insurance to be agreed upon.

Communications addressed I. T. GRANT, P. M., Junction, Rensselaer county, will receive prompt attention.

May 1, 1850—2t.

Colman's European Agriculture.

EUROPEAN AGRICULTURE, from personal observation, by HENRY COLMAN of Massachusetts. Two large octavo vols.—price, neatly bound, the same as published in Nos., $5. For sale at the office of THE CULTIVATOR.

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THE HORTICULTURIST, AND Journal of Rural Art & Rural Taste.

EDITED BY A. J. DOWNING,

Author of "Landscape Gardening," "Designs for Cottage Residences," "Fruits and Fruit Trees of America," &c., &c.

TO all persons alive to the improvement of their gardens, orchards or country seats,—to scientific and practical cultivators of the soil,—to nurserymen and commercial gardeners, this Journal, giving the latest discoveries and improvements, experiments and acquisitions in Horticulture, and those branches of knowledge connected with it, will be found invaluable. Its extended and valuable correspondence presents the experience of the most intelligent cultivators in America; and the instructive and agreeable articles from the pen of the Editor, make it equally sought after by even the general reader, interested in country life. The "FOREIGN NOTICES" present a summary from all the leading Horticultural Journals of Europe; the "DOMESTIC NOTICES," and ANSWERS TO CORRESPONDENTS, furnish copious hints to the novice in practical culture; and the numerous and beautiful Illustrations,—Plans for Cottages, Greenhouses, the Figures of New Fruits, Shrubs and Plants, combine to render this one of the cheapest and most valuable works on either side of the Atlantic.

THE FIFTH VOLUME OF THE HORTICULTURIST will be commenced on the 1st of July, 1850. All or either of the back vols. can be supplied. New subscribers will be furnished with the first four vols. for $10.

TERMS—Three Dollars per year—Two copies for Five Dollars. All payments to be made in advance, and orders to be post paid.

☞ All Agents for THE CULTIVATOR, and Post Masters generally, are invited to act as Agents for THE HORTICULTURIST.

LUTHER TUCKER,
Albany, June, 1850. *Publisher, Cultivator Office, Albany, N. Y.*

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A GREAT variety of Scythes and Snaths, Grain Cradles, Hand and Horse Rakes, Hayforks, &c.

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One thousand barrels Bone dust, both sawings and ground.
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THE Short Horn bull known as ☞OLD SPLENDOR☜ will be kept the present season on the farm of Jacob W. Page, Sennett Corners, Cayuga Co., N. Y. Splendor, (bred by Thomas Weddle,) has been owned several years in Avon and Lima, Livingston county; and the fact of his having served one hundred cows the past season on the farm of his late owner—Mr. Warner, of Lima—is sufficient evidence of his value as a getter. Terms $5 a cow.

Sennett, June 1, 1850—1t.* JOHN R. PAGE.

Allen's Improved Portable

Railroad Horse Power, Thresher and Separator.

THE advantages of the above horse powers are—1. They occupy but little more space than a horse. 2. They can be moved by the weight of the horse only, by placing the machine at an angle of 10 or 15 degrees. 3. They are easily transported, simply constructed, not liable to get out of order, and move with little friction.

The Overshot Threshers consist of a small spiked cylinder, with a concave top, and possess these advantages. 1. They have a level table for feeding, thus enabling the tenders to stand erect, and control the motions of the horse and machine by means of a brake, by which accidents are avoided. 2. In consequence of the spikes lifting the straw and doing the work on the top, stones, blocks, &c drop at the end of the table, and are not carried between the spikes. 3. The overshot cylinder does not scatter the grain, but throws it within three feet of the machine. 4. This arrangement also admits of attaching a *separator*, high enough from the floor or ground to allow all the grain to fall through it, while the straw is deposited by itself in the best condition for binding. 5. Neither grain nor straw are broken by this machine. 6. The cylinder is long, which admits of faster and more advantageous feeding; it is smaller and with fewer teeth than ordinary threshers, thus admitting of more rapid motion and faster work with less power; and the diminution of teeth in the cylinder is fully made up by an increased number in the concave top, which is stationary. 7. The separator is a great advantage in diminishing the labor of raking out the straw, as it leaves the grain in the best condition for the fanning mill. Three men with a single power, can thresh 100 to 150 bushels of grain per day; and four men with a double power, twice that quantity. All the above are compact, and can be carried where wanted, complete, or they may be readily taken apart and packed for distant transportation by wagon or otherwise.

Price of single Power,..... $80
" " Thresher, ... $23
" Separator and fixtures, ... $7
" Bands for driving, &c., ... $5
" Wood-sawing machine, complete and in running order, ... $35
Price of Double Power,..... $100
" with Thresher, Separator, &c.,.....$145 to $150

All the above are sold singly or together, as desired, and are warranted to work well and give satisfaction.

Also, Taplin's 20 feet Circular, and the Cast Iron Sweep Powers. Enquire at the Agricultural Warehouse and Seed Store of

A. B. ALLEN & CO.,
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Constantly on Hand and for Sale

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PLOWS. The Albany, Peekskill, Worcester, Boston, Cast and Wrought Iron Beam Plows of all sizes and the most approved patterns and makers. All warranted to work to the satisfaction of purchasers, for the purposes they are designed, and to be of the best materials and workmanship.

GUANO. Peruvian, African and Patagonian Guano, by the ton or sack.

For sale at the Agricultural Warehouse of
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